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A revision of the African wolf spider genus *Amblyothele* Simon (Araneae, Lycosidae, Piratinae)

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Abstract

The African lycosid genus *Amblyothele* Simon is revised and its subfamily placement clarified. A diagnosis is provided for the genus in relation to other genera in the subfamily Piratinae. The type species, *Amblyothele albocincta* Simon, 1910, is redescribed as is *A. togona* Roewer, 1960. Six new species, *Amblyothele atlantica* **sp. n.** (♀), *A. ecologica* **sp. n.** (♀), *A. hamatula* **sp. n.** (♂), *A. kivumba* **sp. n.** (♂), *A. latedissipata* **sp. n.** (♂♀) and *A. longipes* **sp. n.** (♂♀) are described. *Amblyothele jaundea* Roewer, 1960 is removed from the genus and transferred to *Pardosa*. An illustrated key to the species is provided.

Keywords

Afrotropical Region, new species, Piratinae, systematics, illustrated identification key

Introduction

The genus *Amblyothele* Simon, 1910 was created by Eugène Simon for a single male lycosid collected in Botswana during the Schultze expedition between 1903 and 1905 (Simon 1910). Unfortunately, no further specimens unequivocally assign-

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able to this species have been collected. Following this, Roewer (1960) described two more species in the genus, *Amblyothele togona* Roewer, 1960 from Togo and *A. jaundea* Roewer, 1960 from Cameroon, both from females. Apart from the listing in the Venoniinae by Dippenaar-Schoeman and Jocqué (1997), there has been no further mention of the genus in the literature and its status and relationships have thus remained obscure.

While conducting surveys using pitfall traps in both East and West Africa, we collected both sexes of a number of small lycosid species whose relationships were obscure but which were clearly unrelated to the Pardosinae and Lycosinae which dominate African savannas (Jocqué and Alderweireldt 2005). Comparison of males with the type specimen of *Amblyothele albocincta* convinced the authors that these specimens were congeneric. In this paper we redescribe the genus and its type species *Amblyothele albocincta*, and describe six new species, of which two are represented by both sexes. The relationships of this genus within the family Lycosidae are discussed.

Methods

Specimens were examined in 70% ethanol. Epigynes were cleared in methyl salicylate and temporarily mounted in a mixture of methyl salicylate and cedukol (Merck, Darmstadt). Scanning electron micrographs were obtained with a JEOL LV6450, after drying the specimens or parts in hexamethyl disilazane. Measurements were made with an eyepiece micrometer and are in mm. In the spination formulae, numbers between brackets indicate spines that may be lacking in some specimens.

Abbreviations:

Acronyms of institutions and collections:

ARS Private collection A. Russell-Smith
MRAC Musée Royal de l'Afrique Centrale, Tervuren (R. Jocqué)
NCA National Collection of Arachnids, Pretoria (A. Dippenaar-Schoeman)
SMF Senckenberg Museum, Frankfurt (P. Jäger)
ZMB Zoologisches Museum, Berlin (J. Dunlop)

Abbreviations in descriptions: ac – aciniform gland spigot; **ALE** – anterior lateral eyes; **ALS** – anterior lateral spinnerets; **AME** – anterior median eyes; **CL** – carapace length; **CW** – carapace width; **pi** – piriform gland spigot; **e** – embolus; **MA** – median apophysis; **mAmp** – major ampullate gland spigot; **PLE** – posterior lateral eyes; **PME** – posterior median eyes; **PLS** – posterior lateral spinnerets; **TA** – tegular apophysis; **TL** – total length.

Systematics

Amblyothele Simon, 1910

Amblyothele Simon, 1910. **Type species**, *Amblyothele albocincta* Simon, 1910, by original designation.

Small wolf spiders (males 3.08-4.17, females 3.33-5.17) without pronounced carapace pattern, sometimes with pale median band and darker striae radiating from fovea (Fig. 1). Anterior eye row (Fig. 2) usually either straight or, more often, recurved, with AME ranging in size from equal to twice diameter of ALE. PME 1.40-2.25 times diameter apart; PLE 0.66-0.86 times diameter of ALE. Eye region normally suffused with black. Chelicerae pale, mottled or streaked with grey, clothed in long dark setae; posterior margin with two teeth, proximal one normally larger, anterior margin normally with three minute teeth with middle one largest although in some species anterior margin lacks teeth altogether. Labia and maxillae coloured as chelicerae with maxillae 1.75 to 2.0 times longer than labium. Sternum pale, scutiform, moderately to strongly produced between hind coxae, with scattering of dark setae. Legs pale yellow to pale brown, clothed in short adpressed setae, noticeably longer and thinner than those of all other well-characterised piratine genera, with length/width ratio of femur I ranging from 5.60 to 10.50. Leg IV 1.25-1.35 times length of leg I. Ventral spines of leg I normally with three pairs on tibia and three on metatarsus, distal pairs normally reduced in size. All leg spines long, thin and pale. Tarsi with three claws (Fig. 9); paired claws with two to five long thin teeth and few tiny ones at base; unpaired claw small on raised pad, with four or five small teeth, having two long serrated bristles adjacent. Tarsal organ with keyhole shaped aperture (Fig. 8). Abdomen pale yellow to brown, sometimes suffused with grey and usually with paler dorsal folium (Fig. 1). Type species, *A. albocincta*, with row of four paired pale white spots on dorsal surface. Abdomen of males without dorsal scutum. Dorsal surface sometimes clothed in dark hairs. Ventrally pale yellow to white. Spinnerets long, ALS twice length of AMS, clearly 3 segmented (Figs 1, 4, 5). Dorsally pale to dark brown or grey, ventrally pale white or cream. ALS in female with two major ampullate gland spigots near median margin, surrounded by numerous piriform gland spigots. PLS with numerous aciniform gland spigots.

Male palp longer and narrower than that of most piratine genera and cymbium without terminal claws. MA located distally on bulb, very large U or C-shaped sclerite with two branches (Figs 6, 7, 10, 14); larger, anterior branch directed antero-mesally, blade-shaped. Smaller posterior branch directed anteriorly, variable in shape: blunt lobe with rounded tip in *A. albocincta*, abruptly truncate in *A. togona* and *A. longipes*, pointed barb in *A. hamatula*. Course of E almost totally obscured by MA in unexpanded palp (Figs 6, 7) with only very tip visible near base of MA in *A. albocincta, A. latedissipata* and *A. togona.* Sub-tegulum relatively large in most species, occupying from quarter to third of surface of bulb, but reduced in size in *A. hamatula*.

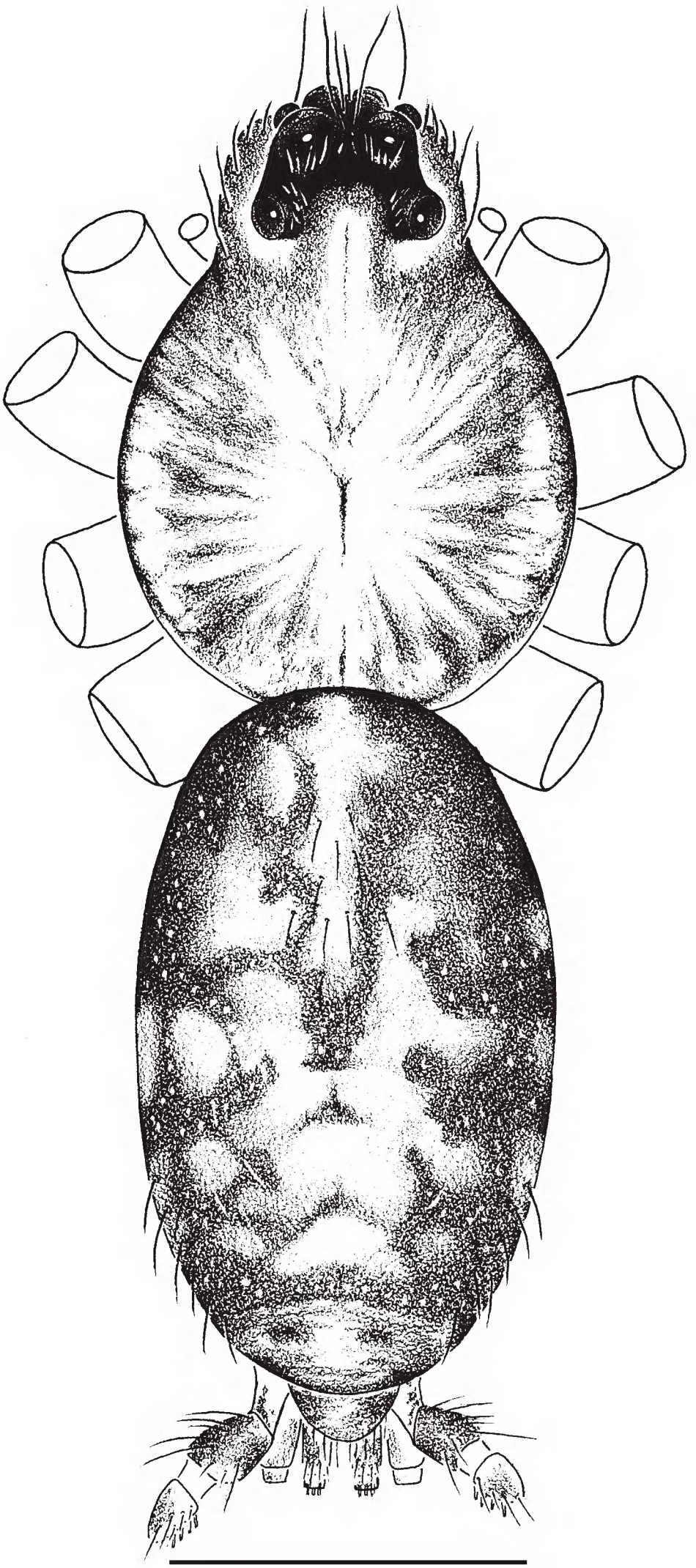
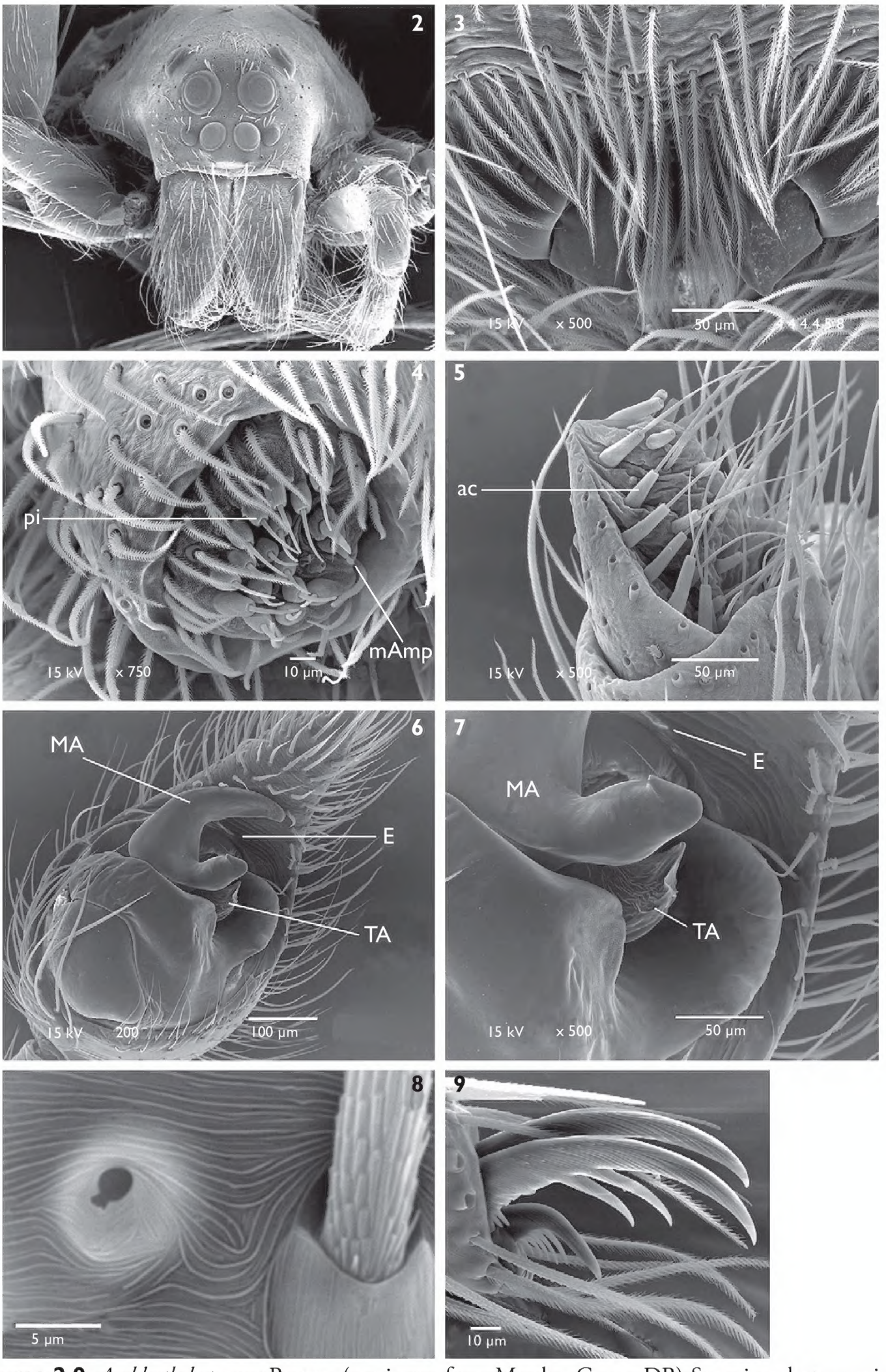


Figure 1. *Amblyothele togona* Roewer, female, habitus (MRAC 223302). Scale = 1 mm.



Figures 2-9. *Amblyothele togona* Roewer (specimens from Masako, Congo DR) Scanning electron micrographs **2** female carapace, frontal view **3** epigyne, ventral view **4** anterior lateral spinneret; retro-caudal view **5** posterior lateral spinneret, last segment, ventral view **6** male palp, ventral view **7** male palp, detail, ventral view **8** tarsal organ on leg 2 **9** tarsal claws, leg 2. (E: embolus; MA: median apophysis; TA: tegular apophysis).

Female epigyne resembling that of other piratine genera in being simple plate (Fig. 3), often obscured by densely packed, long, barbed setae. Epigynal plate suboval in shape, shallowly (*A. latedissipata*) to deeply (*A. togona*) notched on posterior border. Spermathecae and their ducts visible to greater or lesser extent through lateral margins of epigynal plate. Viewed internally, genital openings visible to either side of central notch on posterior margin of epigyne with spermathecal ducts extending anteriorly, either straight or curving mesally. Spermathecae relatively small, either spherical or pyriform. With two small laterally-oriented glands at base of spermathecal ducts, near the posterior margin of the epigynal plate; gland ducts connect to spermathecal ducts.

Diagnosis of *Amblyothele* Simon, 1910

Pirata, the nominate genus of the subfamily, is distributed throughout the world with the exception of SE Asia(?), Australia and the Pacific region. The tegular apophysis in *Pirata* varies widely in form (see, for example Almquist (2005) for European species, Tanaka (1988) for those of Japan and Wallace (1978) for Nearctic species). The tegular apophysis in *Amblyothele* resembles that of some species of *Pirata* (e.g., *P. latitans* (Blackwall, 1841), *P. insularis* Emerton, 1885, *Pirata uliginosus* (Thorell, 1856) and among European species (see Almquist 2005, figs. 236 a-h, 237 a-e) but not that of the type species, *P. piraticus* (Clerck, 1757). The epigynes of *Amblyothele* species also resemble those of *Pirata* species but in several species have a conspicuous notch on the posterior margin. Despite the similarity of the male palp in at least some *Pirata* species and *Amblyothele*, the two genera differ significantly in somatic characters. The legs of *Amblyothele* are much longer and thinner than those of *Pirata* species with the length/width ratio of Femur I of three *Pirata* species ranging from 3.21 to 3.33 and that for three *Amblyothele* species from 5.67 to 10.45. Furthermore, the legs of *Pirata* species are more or less densely clothed in semi-erect setae while those of *Amblyothele* species have only a sparse clothing of short, adpressed setae. Overall, most *Amblyothele* species are smaller than *Pirata* species although the smallest *Pirata* (e.g. *P. latitans*) overlap in size with the largest *Amblyothele*.

In the palp of the genera *Proevippa*, *Trabea* and *Pterartoria*, the basal part of the tegulum bears one or more, more or less translucent, poorly sclerotised membranous extensions (see Fig. 10b in Russell-Smith 1981 and Fig. 1a in Russell-Smith 1982) which are lacking in *Amblyothele*. Furthermore, the terminal apophysis in *Proevippa* Purcell, 1903 and *Trabea* Simon, 1876 is much larger than that in *Amblyothele* and has a characteristic tongue-shaped form with a sharply reflexed distal portion (Russell-Smith 1981, 1982).

Synapomorphies

In the absence of a thorough phylogenetic analysis polarizing characters in function of an outgroup, we can only suggest a number of apomorphies for the definition of the genus. They are: very long thin legs with sparse cover of setae, lack of membranous extensions on the tegulum and large, distal MA and small embolus in the male palp.

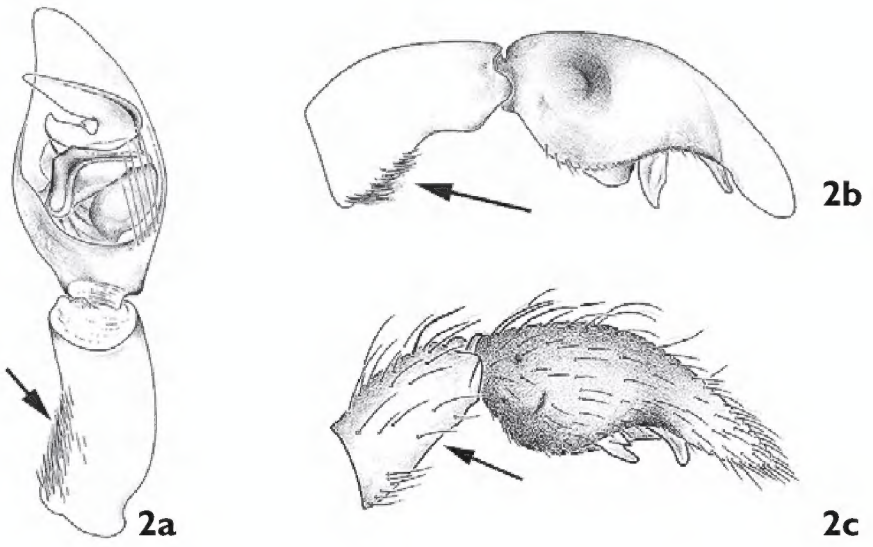
Notes. The most conspicuous structure of the male palp of *Amblyothele albocincta* and all other members of the genus described here is the greatly enlarged, more or less sickle shaped, median apophysis which is orientated longitudinally on the palpal bulb (Figs 6, 10, 16, 20, 22, 28, 33). By contrast, the embolus is very small (only the tip is visible in the unexpanded palp) and is situated distally on the bulb (Figs 6-7). Both of these characters are given as synapomorphies for the subfamily Venoniinae by Dondale (1986). As Dondale pointed out, this concept of the subfamily is much wider than that of Lehtinen and Hippa (1979), who restricted the subfamily to a group of web-building lycosid genera with a centre of distribution in S.E. Asia. More recently, Yoo and Framenau (2006) revised the genus *Venonia* Thorell, 1894 and revalidated Venoniinae in the restricted sense of Lehtinen and Hippa (1979), on the basis of the distinctive palpal morphology including the distal position of a well sclerotised conductor. However, this does not correspond with the definition of the subfamily provided by Dondale (1986).

The correct subfamily name for the remaining genera previously included in the Venoniinae by Dondale (including at least *Pirata* Sundevall, 1833, *Proevippa*, *Trabea* and *Pterartoria* Purcell, 1903) appears to be Piratinae sensu Zyuzin (1993) as they possess a functional conductor which is combined with a short, thin embolus in a common sickle-shaped complex, resting in a deep and narrow ascending tegular groove. Although it is clear that more detailed research is necessary on the subfamily level (Murphy et al. 2006), the characteristics of the male palp of *Amblyothele* as described above, place it in the Piratinae.

Misplaced species. We have seen the type specimen of *Amblyothele jaundea* Roewer, 1960 (ZMB), a single female. Examination of the epigyne shows that this specimen certainly cannot be placed in *Amblyothele* and is most probably a member of the subfamily Pardosinae. It is therefore suggested to list it temporarily in the right subfamily as *Pardosa jaundea*.

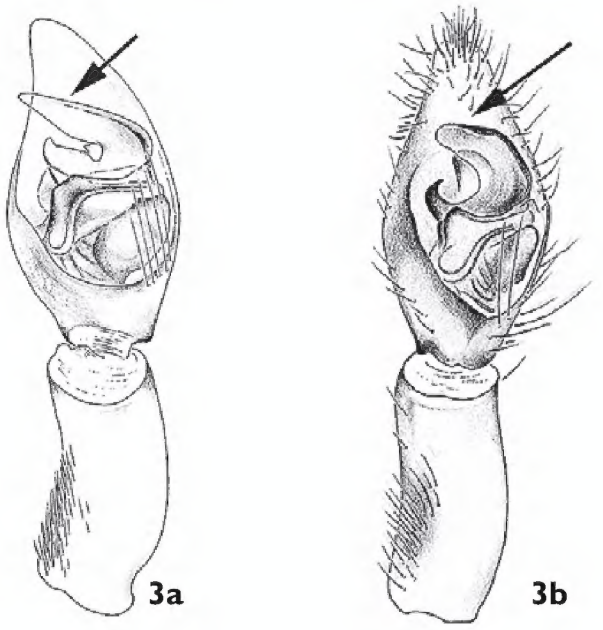
Key to the species of *Amblyothele*

1 Males **2**
– Females **7**
2 Palpal tibia with dense ventral cluster of short setae in basal half (2a, b) **3**
– Palpal tibia without dense cluster of short setae (2c) **4**



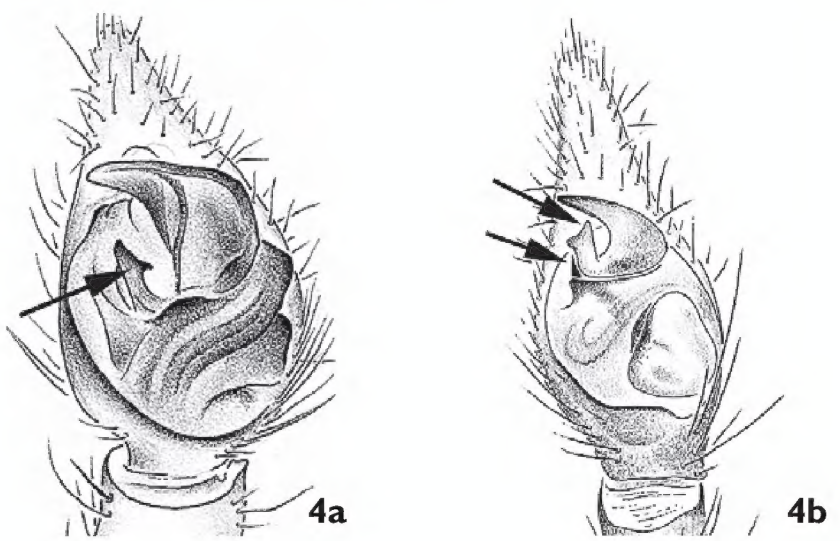
3 Distal prong of MA long and slender, protruding beyond cymbium in ventral view; indentation between distal and proximal prong narrow, rectangular (3a) ..... ***A. albocincta***

– Distal prong of MA fairly broad and curved, not protruding beyond cymbium in ventral view; indentation between distal and proximal prong rounded (3b) ..... ***A. latedissipata***



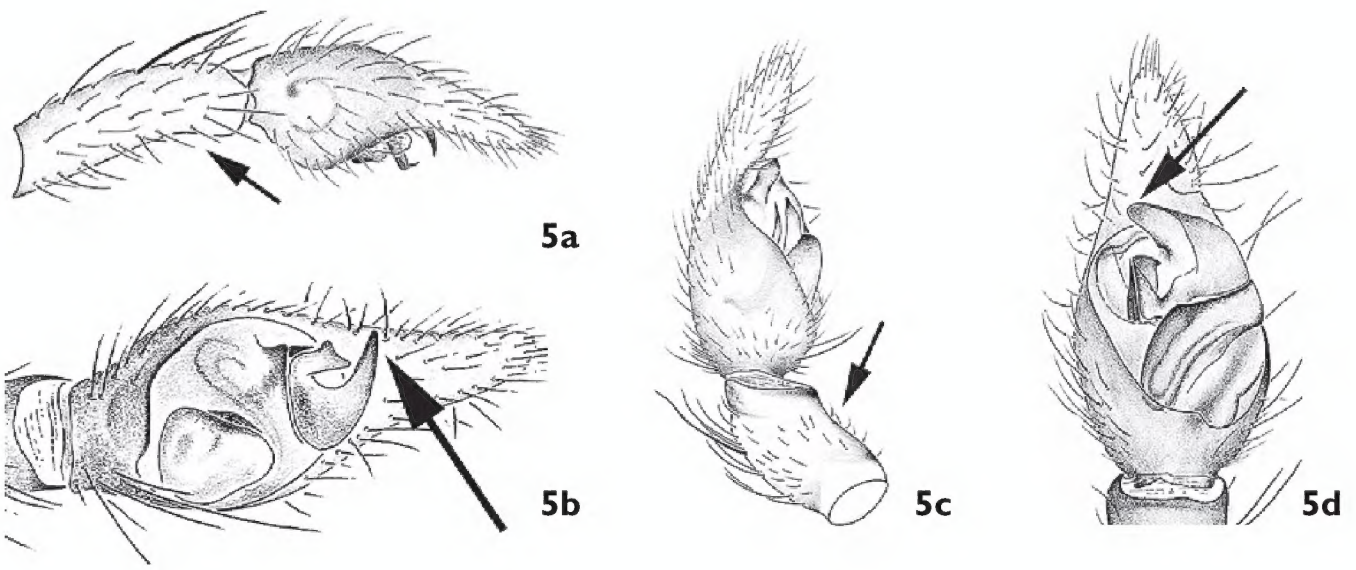
4 MA with one prong only; TA with back pointing tooth (4a) ..... ***A. hamatula***

– MA with two prongs; TA simple (4b) **5**



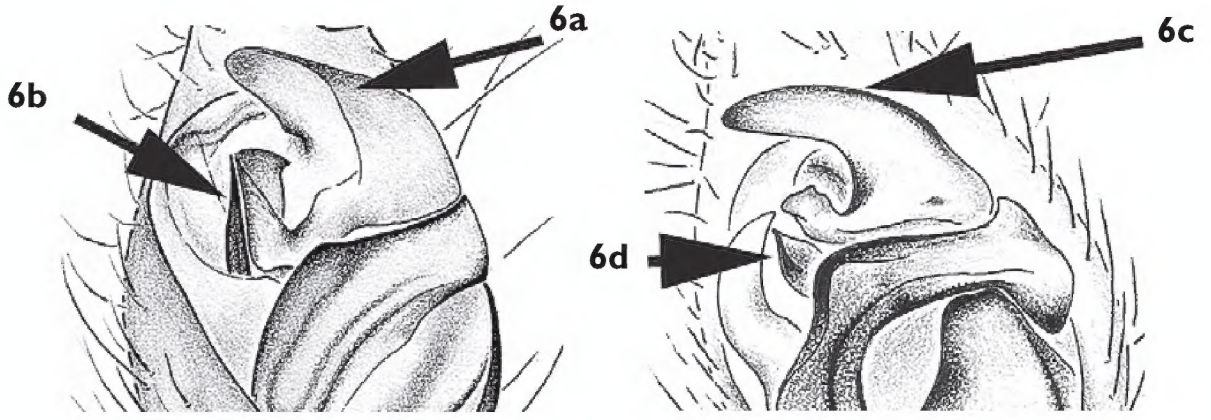
5 Palpal tibia long (L/W > 3)(5a); distal prong of MA strongly tapered and pointed (5b).....***A. longipes***

– Palpal tibia short (L/W < 2.5) (5c); distal prong of MA rounded (5d).....**6**



6 Distal prong of MA short, hardly longer than proximal one, straight (6a); TA fairly long and spiniform (6b) .....***A. kivumba***

– Distal prong of MA longer than proximal one, curved (6c); TA fairly broad (6d) .....***A. togona***

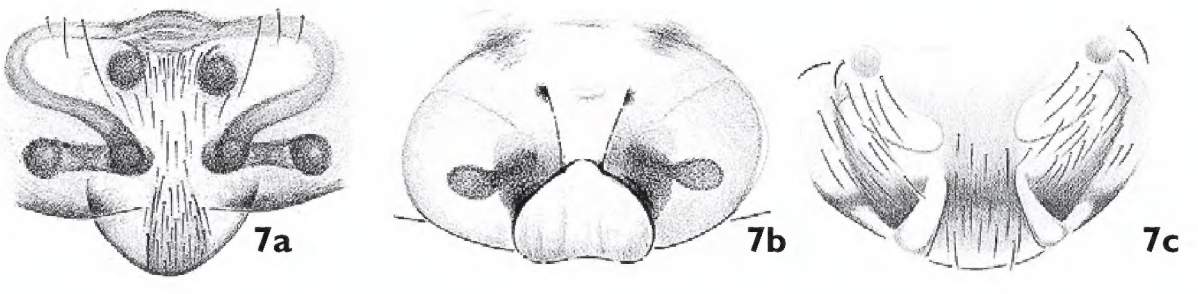


7 Posterior margin of epigyne convex and provided with central band covered with short setae up to anterior margin (7a, 7b) **8**

– Posterior margin of epigyne indented and without central haired band (7c)...**9**

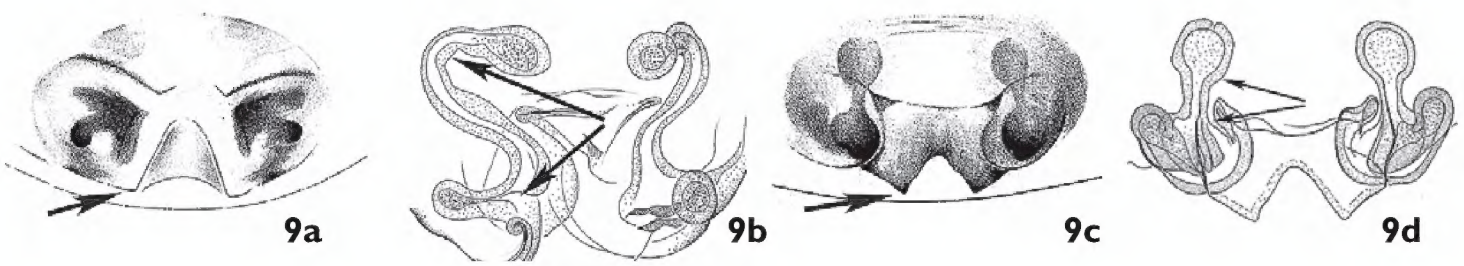
8 Posterior lip of semicircular, setae on central band dense (7a) ....***A. atlantica***

– Posterior less strongly curved, setae on central band sparse (7b)....***A. ecologica***



9 Lateral parts of posterior margin rounded (9a); copulatory ducts long and s-shaped (9b) ..... ***A. latedissipata***

– Lateral parts of posterior margin more or less strongly pointed (9c); ducts shorter (9c) **10**

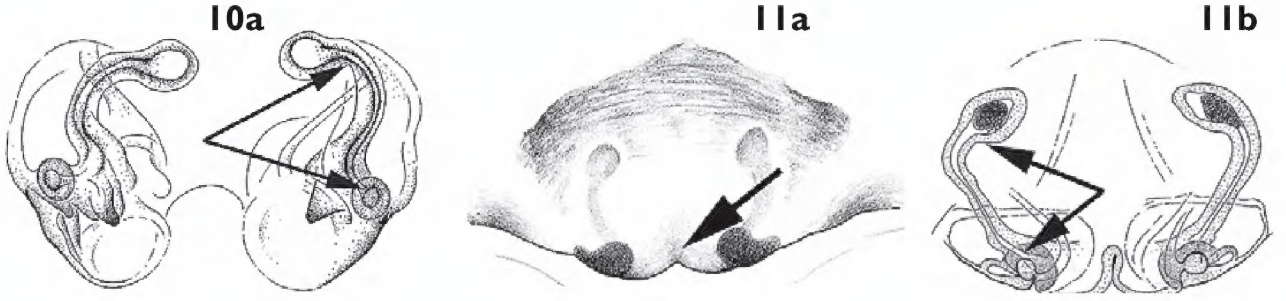


10 Copulatory ducts straight, shorter than diameter of spermathecae (9d) ..... ***A. togona***

– Copulatory ducts curved or s-shaped, longer than diameter of spermathecae (10a) **11**

11 Posterior margin of epigyne deeply notched (9a); copulatory ducts s-shaped (10a) ..... ***A. albocincta***

– Posterior margin of epigyne shallowly notched (11a); copulatory ducts curved (11b) ..... ***A. longipes***



Descriptions

***Amblyothele albocincta* Simon, 1910**
Figs 10-13, Map 1

Amblyothele albocincta Simon, 1910: 207, description ♂; Roewer 1960: 955, description ♂.

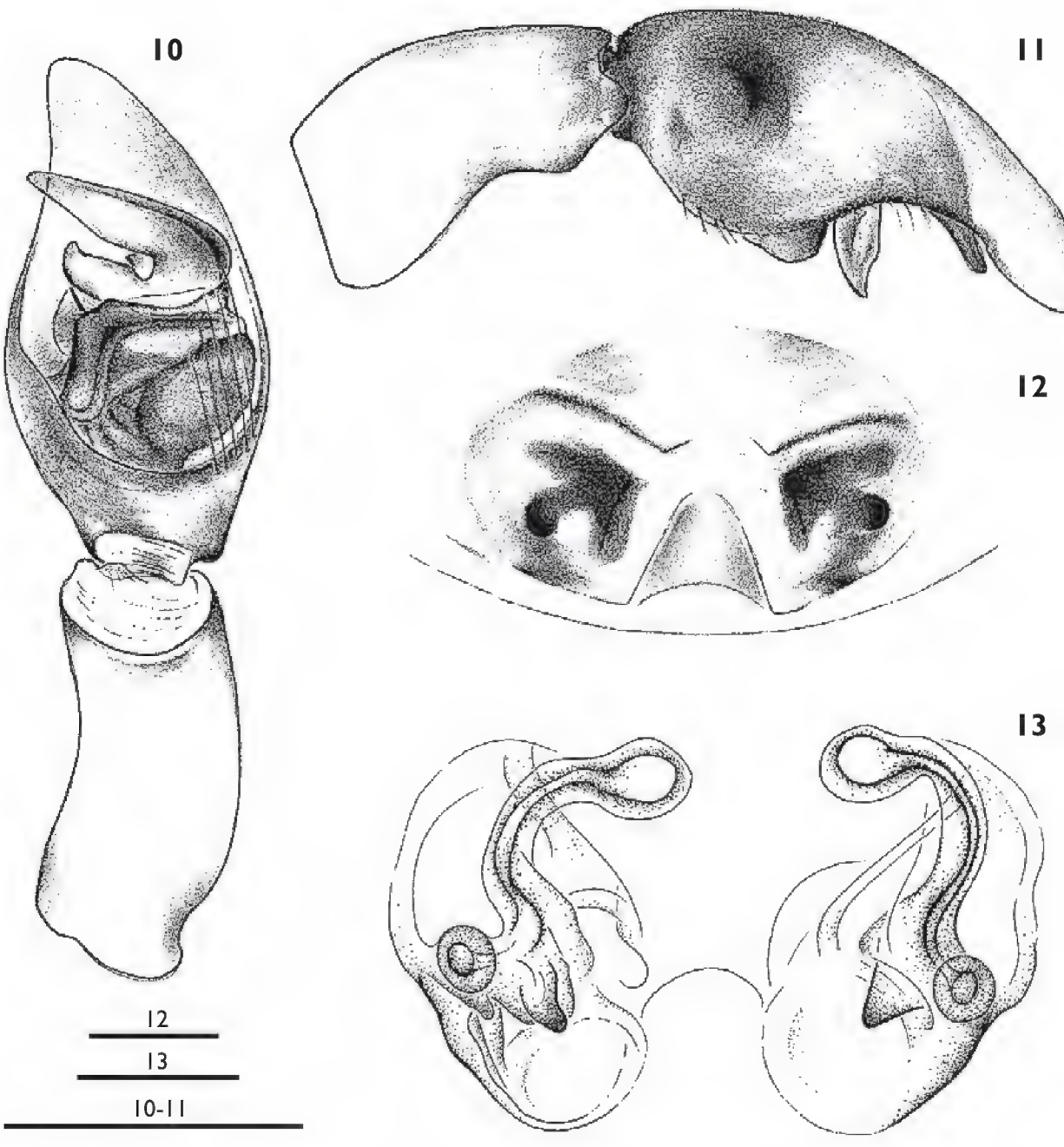
Diagnosis. The posteriorly widened palpal tibia with ventral brush of short setae and the shape of the median apophysis of the male palp, with a tiny nipple-shaped projection on the basal lobe are distinctive.

Type material. Holotype. Male. BOTSWANA: Kalahari, between Lehututu and Kokong, 23°58'S 021°52'E (ZMB).

Other material examined. BOTSWANA: 1 ♀: Maxwee, Okavango Delta, 19°28'S 023°39'E, 28.IV.1976, Mopane woodland, in pitfall, A. Russell-Smith leg. (MRAC 223296).

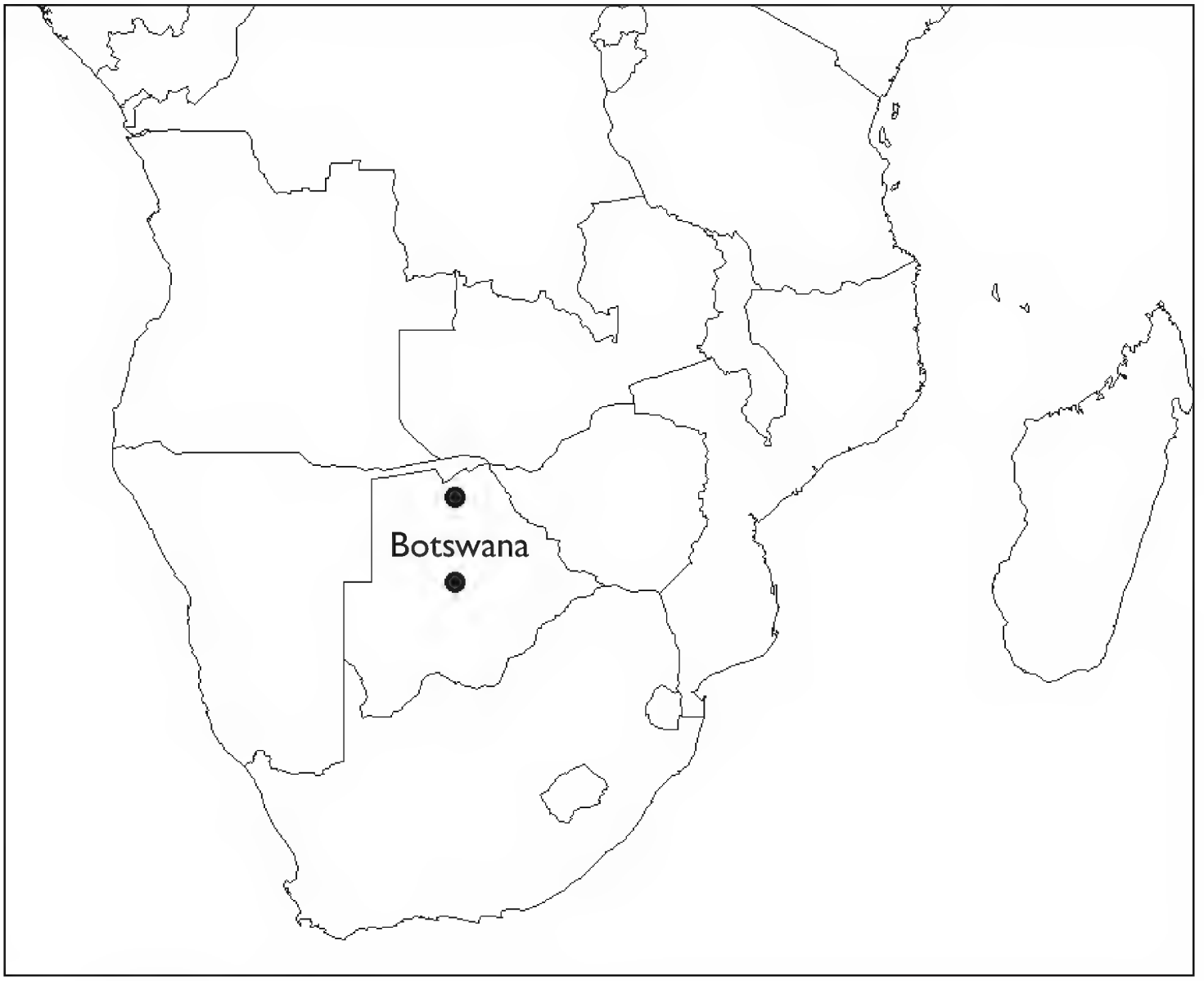
Notes. The type specimen is in poor condition, lacking one palp, three legs and one jaw. The colours have been largely lost due to long immersion in alcohol. It is with some hesitation we assign the female here described to this species, given the wide separation (530 km) of the locality from that of the type locality. However, the distinctive line of light spots on the abdomen corresponds well with Simon's original description of the appearance of the male (before decolouration in alcohol) and no other species in the genus has a similar appearance.

Description. Holotype. Male. Total length. 4.00 mm. *Carapace*. Length 2.08 mm, width 1.67 mm. Colour chestnut brown with faint darker lines radiating from fovea. Fovea only moderately long. Head region not at all raised but sharply narrowed and clearly distinct from thoracic region. *Eyes*. Anterior row very slightly procurved. AME separated from each other by 0.6 × their own diameter and by 0.4 × their own diameter from the very small ALE. Eyes of middle row 1.4 × diameter of AME's and separated from each other by 0.7 × their own diameter. PLE 0.7 × diameter of PME, separated by



Figures 10-13. *Amblyothele albocincta* Simon (holotype). **10** right male palp, ventral view **11** right male palp, retrolateral view **12** epigyne, ventral view **13** epigyne, dorsal view, cleared. Scales: **10-11** 0.5 mm **12-13** 0.1 mm.

4 × their own diameter. Immediate region of eyes with dark pigmentation. *Chelicerae.* Coloured as the carapace, long and relatively thin. Dentition not seen. *Maxillae and labium.* Maxillae ca 2 × length of labium, strongly truncate at distal end. Coloured as the carapace. Labium sub-quadrate, as long as broad, coloured as the maxillae. *Sternum.* Shield-shaped but longer than in other species of the genus and strongly produced between the hind coxae. Coloured as the carapace. *Legs.* Relatively shorter and more robust than in many other species of the genus. Ratio of length to breadth of tibia IV 12:1. Leg IV 1.45 × length of leg I. Ventral spines of leg I; metatarsus 2-2-(2), tibia 2-2-(2). Pale yellow brown, without annulations. Paired claws of tarsi relatively short, teeth not seen, the central claw minute, on a raised pad and having two long serrated bristles adjacent. *Abdomen.* Dark brown, paler spots mentioned in original description no longer visible. Ventrally pale yellowish brown. *Spinnerets.* Long and thin. PLS ca 2 × length of AMS. Second segment of PLS 0.5 × length of basal segment. Coloured as the abdomen. *Male palp* (Figs 10-11). Tibia widened at base, with retroventral brush of short setae in basal half. Median apophysis situated terminally. Anterior lobe of median apophysis broadly sickle-shaped, posterior lobe with a minute nipple-shaped apical projection. Tip of embolus thin and partly obscured by median apophysis.



Map 1. Localities of *A. albocincta*.

Female. Total length 3.84 mm. *Carapace*. Length 1.84 mm, width 1.33 mm. Colour as in male. *Eyes*. Anterior row straight. AME eyes larger than those of male, separated by 0.2 × their diameter and touching the ALE's. Chelicerae. Smaller than those of male, with two minute teeth on posterior margin and no visible teeth on anterior margin. *Maxillae and labium*. As in male. *Sternum*. 1.12 long, 0.89 wide. *Legs*. Only one fourth leg survives. Similar in colouration and spination to that of male. *Abdomen*. Dorsally dark greyish brown with four pairs of pale spots along its length. Otherwise as in male. *Spinnerets*. PLS ca 2.5 × length of AMS. Second segment of PLS as long as first. Dorsally dark greyish brown. *Epigyne* (Figs 12-13). Ventral view with vague pattern consisting of two oblique asymmetrical v-shaped stripes in front and a rounded inversed v in centre of posterior part; entrance to duct openings visible in transparency as darker spots on either side of inverted v. Dorsal view of cleared epigyne with largely separated entrance openings near posterior margin; short S-shaped entrance ducts directed forward to small oval spermathecae.

Distribution. Botswana (Map 1).

***Amblyothele atlantica* sp. n.**

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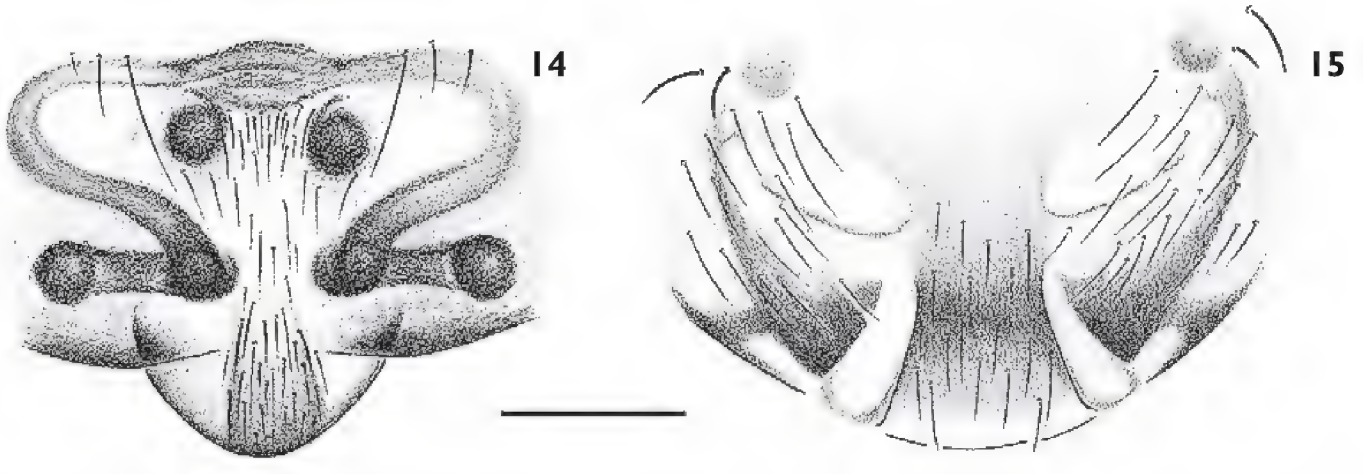
Fig. 14, Map 2

Diagnosis. The appearance of the epigyne is characteristic and unique within the genus with looped ducts extending anteriorly and a triangular posterior projection. The very dark charcoal grey colouration is also distinctive.

Etymology. Named after the type locality.

Type material. Holotype. Female. CAMEROON: Atlantic Mountains, 08°31'N 012°36'E, 30.IV.2007, litter at the base of rocks, sieving. R. Jocqué, K. Loosveldt, L. Baert, M. Alderweireldt leg. (MRAC 221300).

Description. Female. Total length 4.17 mm. *Carapace*: Length 1.75 mm, width 1.08 mm. Dark charcoal grey with a paler yellowish median stripe extending from behind eyes, wide anteriorly and abruptly narrowing posteriorly. With black striae ra-

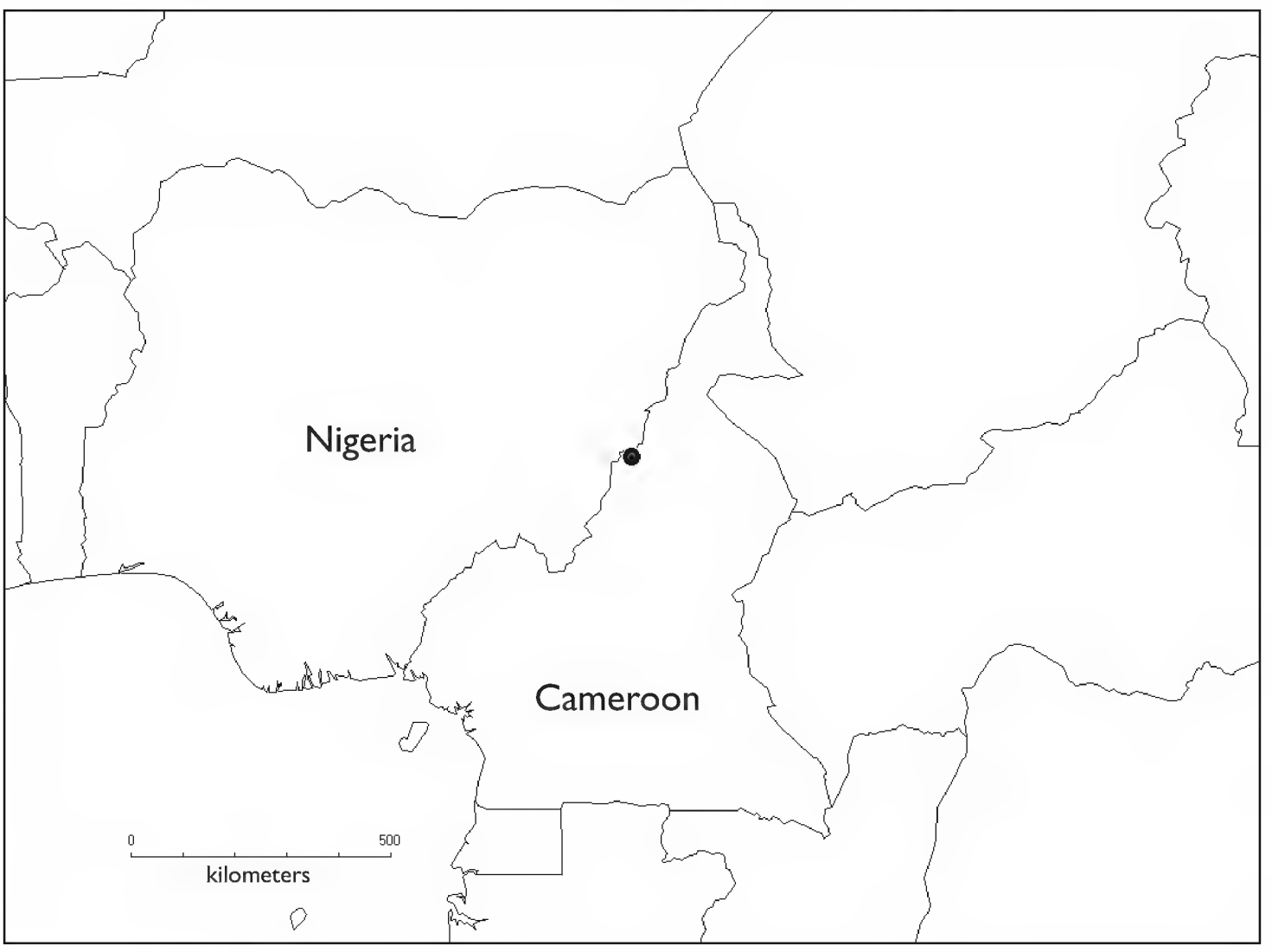


Figures 14-15. 14 *Amblyothele atlantica* sp. n. epigyne of holotype, ventral view **15** *A. ecologica* sp. n. epigyne of holotype, ventral view. Scale: 0.1 mm.

diating from the relatively long fovea. *Eyes*. Anterior row straight. AME 2x diameter of ALE and separated by 0.75 × their own diameter and by 0.2 × their diameter from the ALEs. Middle eyes 1.4 × diameter of AMEs and separated by 0.7 × their own diameter. PLE 0.7 × diameter of PME, separated by 2.8 × their own diameter. All eyes with black surrounds and eye region with sparse scattering of shining white spatulate setae. *Chelicerae*. Pale greyish cream with darker black longitudinal bands, With a sparse clothing of long black setae. Cheliceral dentition not seen. *Maxillae and labium*. Maxillae 1.87 × length of labium, broadened and truncate at distal end. Pale cream suffused with grey. Labium trapezoidal, 1.86 × wider than long, coloured as maxillae. *Legs*: Long and slender. Ratio of length to breadth of tibia IV 11.7 Leg IV 1.32 × length of leg I. Dark charcoal grey dorsally, paler ventrally. Ventral spines of leg I; metatarsus 2+2+(2), tibia 2+2+2. Tarsal claws short, with 5 teeth. *Abdomen.* Dorsally dark charcoal grey with a median pale band extending one third its length. Ventrally pale grey with a pair of narrow white longitudinal stripes extending back from the epigastric fold. With sparse tuft of curved black setae anteriorly. *Spinnerets.* Long and thin. Posterior lateral spinnerets 1.5 × length of others. Dark charcoal grey. *Epigyne*. Fig. 14. Very distinctive in ventral view with a pair of looped ducts extending anteriorly from the epigynal plate and curving towards each other. Epigynal plate with a triangular posterior projection.

Male unknown.

Distribution. Known only from the type locality (Map 2).



Map 2. Locality of *A. atlantica*.

***Amblyothele ecologica* sp. n.**
urn:lsid:zoobank.org:act:09EB7788-204D-41EE-AE0E-47C23FA70227
Fig. 15, Map 3

Diagnosis. The appearance of the epigyne is characteristic with a large rectangular notch on the posterior margin of the epigynal plate and the short converging ducts seen through the cuticle.

Etymology. The specific name is a Latinised form of the Greek for "household" and "knowledge" and is used in its modern sense of "environmentally friendly", referring to its occurrence in an intercrop.

Type material. Holotype. Female. SOUTH AFRICA: Mpumalanga, Roodeplaat Research Station, 25°45'S 28°10'E, 1.III.1995, in tomato and basil intercrop, E. von Maltitz leg. (NCA).

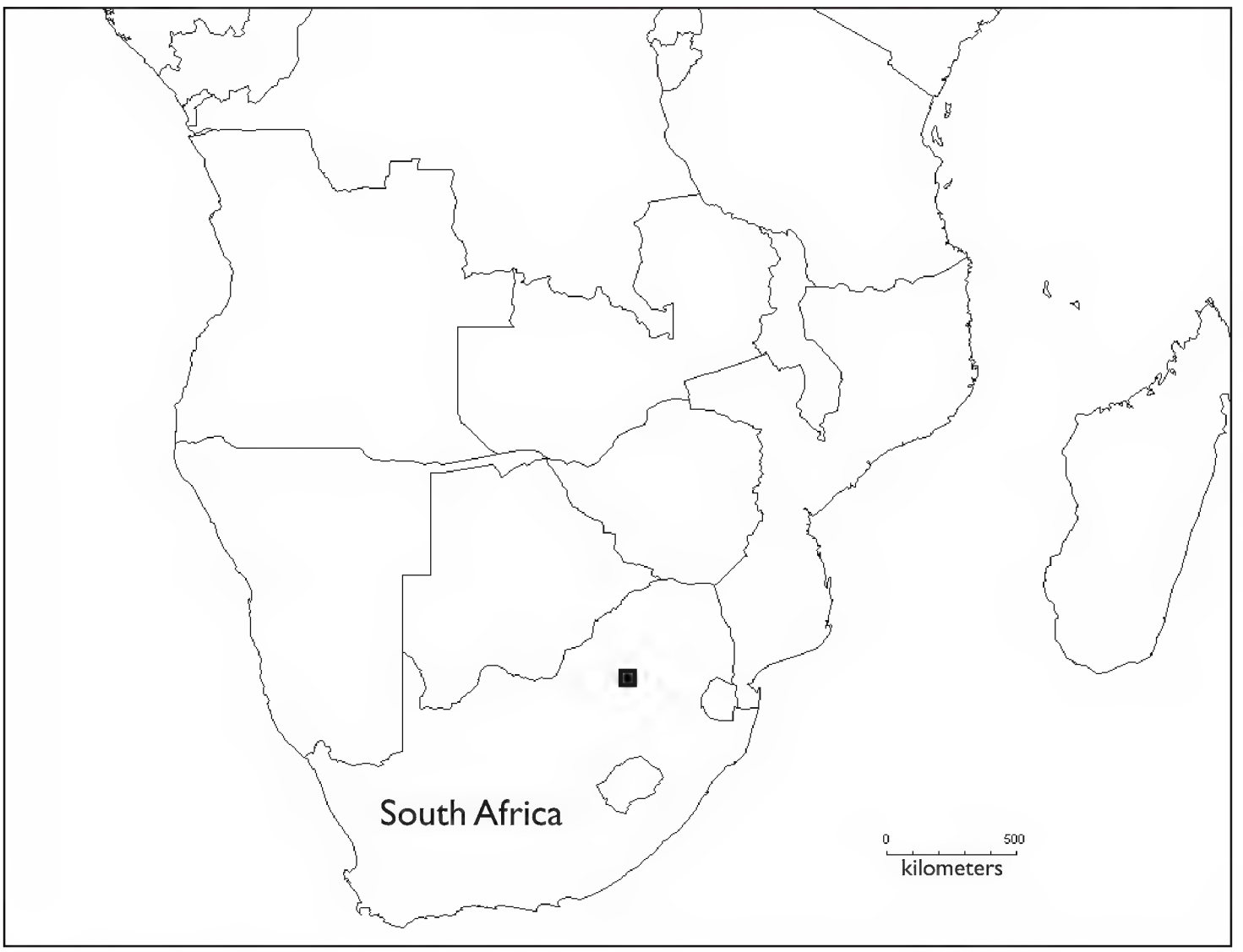
Description. Female. Total length 5.17 mm. *Carapace*. Length 2.17 mm, width 1.67 mm. Pale chestnut brown with dark grey striae radiating from fovea. Fovea long, 0.2 × length of carapace. *Eyes*. Anterior row slightly recurved. AME 0.9 × diameter of ALE, separated by 0.2 × their own diameter and almost touching ALE. Middle eyes 1.83 × diameter of AME, separated by 0.87 × their diameter. PLE 1.12 × diameter of PME, separated by 1.67 × their own diameter. Eye region dark black with a few dark setae. *Chelicerae*. Coloured as carapace and clothed in long pale setae. Retro-margin with two teeth, proximal largest. Pro-margin with three teeth, middle largest. *Maxillae and labium*. Maxillae 0.75 × length of labium, truncate at tip. Labium as wide as long at base, tapering to a rounded tip. Coloured as chelicerae. *Sternum*. Shield shaped and somewhat produced between hind coxae. Pale yellow with a scattering of dark setae. *Legs*: Pale brown. Relatively stout for genus. Ratio length/breadth of tibia IV 13.2. Leg IV 1.33 × length of leg I. Ventral spines of leg I; tibia 2+2, metatarsus 2+2+(2). Tarsal claws moderately long, with 5 long teeth. *Abdomen*. Dorsally chestnut brown suffused with grey and with 5 pairs of lighter spots along length, consisting of pale setae. Ventrally pale cream. *Spinnerets*. Long, PLS 2 × length of other spinnerets. Dorsally dark greyish brown, ventrally pale cream. *Epigyne* (Fig. 15). In ventral view, large, with a conspicuous rectangular notch on the posterior margin of the epigynal plate. Ducts (as seen through cuticle), short narrow, curved and converging at the anterior end.

Male unknown.

Distribution. Known only from the type locality (Map 3).

***Amblyothele hamatula* sp. n.**
urn:lsid:zoobank.org:act:2B74D4AF-DE6A-4E82-9BEC-925A92292D04
Figs 16-17, Map 4

Diagnosis. The male differs from other species of the genus by the shape of the broad median apophysis, with the apical lobe narrowing abruptly at the tip and the basal lobe with a barbed, forward pointing projection.

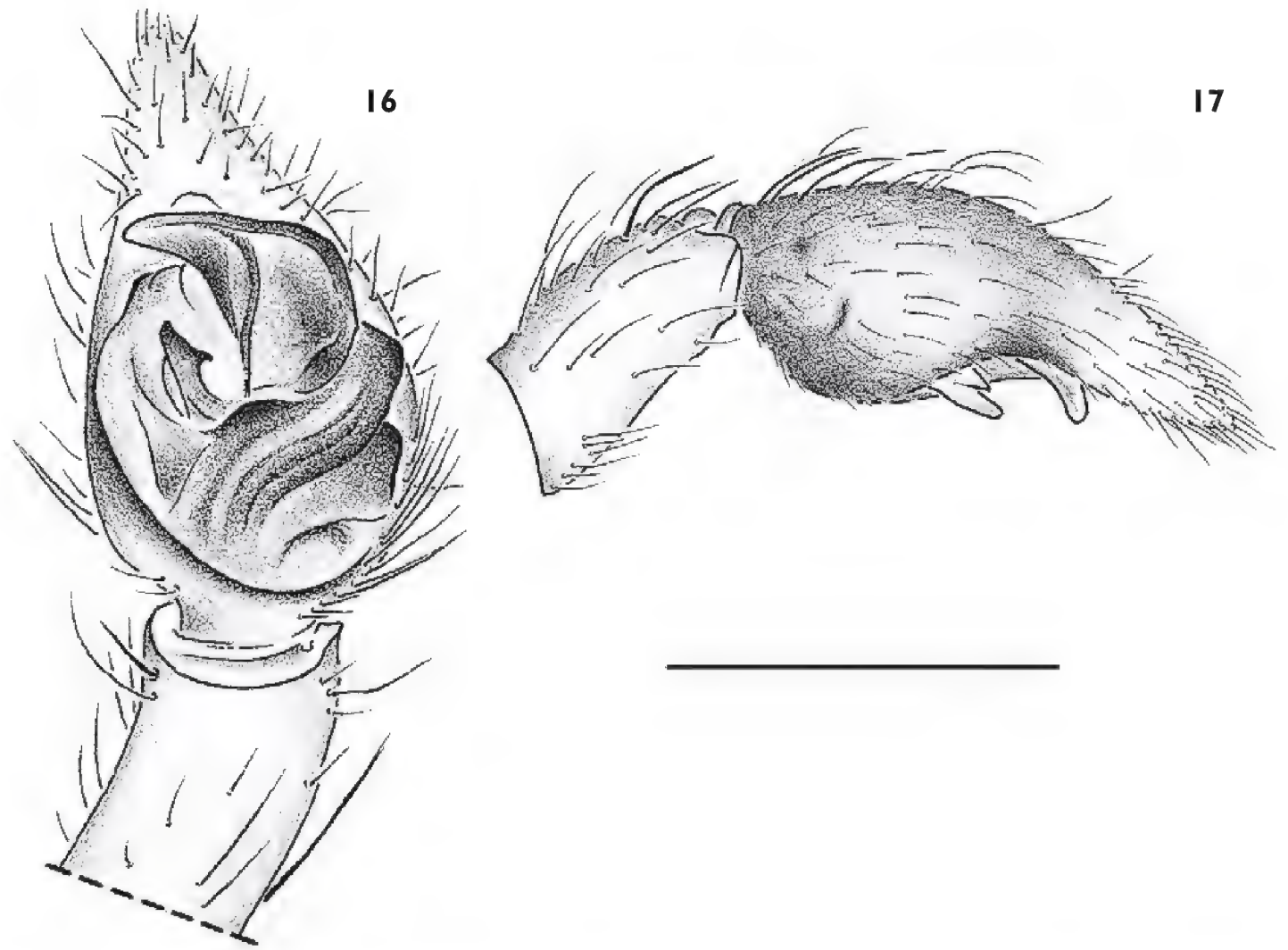


Map 3. Locality of *A. ecologica.*

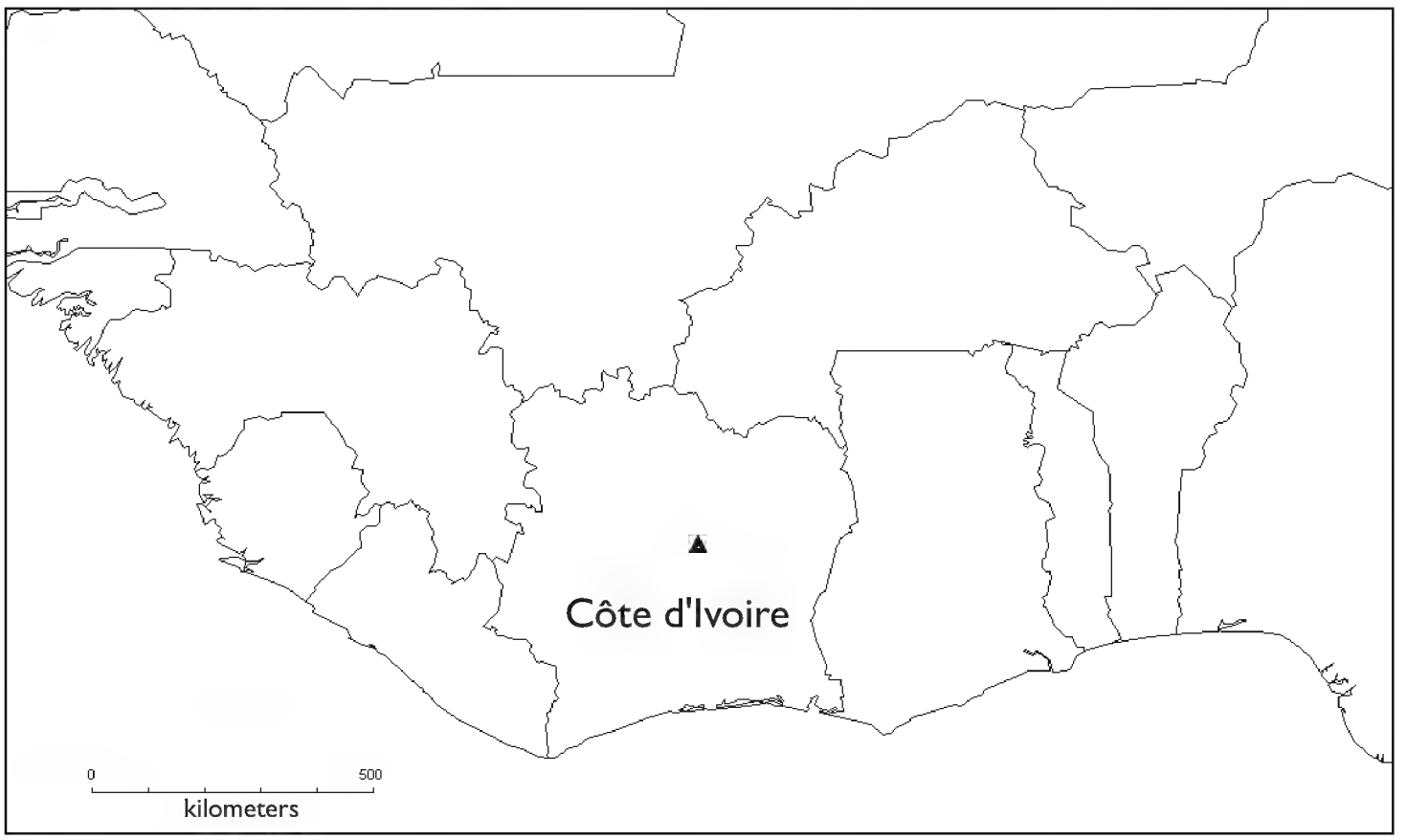
Etymology. The specific name is derived from the Latin for a small hook or barb and refers to the shape of the projection on the posterior lobe of the median apophysis.

Type material Holotype. Male. COTE D'IVOIRE: Mbé, near Bouaké, WARDA site, 7°52'N 5°06'W, 15.VIII.1994, pitfall traps in upland rice, A. Russell-Smith leg. (MRAC 223299).

Description. Holotype. Male. Total length 3.17 mm. *Carapace*. Length 1.56 mm, width 1.08 mm. Orange-brown with darker streaks radiating from fovea. Head region slightly lower than thoracic region. Fovea moderately long. Whole eye region suffused with black and covered with flattened white setae. *Eyes*. Anterior row straight. AME ca. 2 × diameter of ALE, separated from them by ca. 0.20 × their own diameter. AME separated from each other by 0.5 × their own diameter. Middle eyes 2.0 × diameter of AME and separated by 0.5 × their own diameter. PLE 0.75 × diameter of PME and separated by 2.33 × their own diameter. *Chelicerae*. Moderately long, pale orange-yellow with black mottling. Posterior margin with two teeth, that nearest the fang the largest, anterior margin with three teeth, the middle the largest. *Maxillae and labium*. Coloured as chelicerae. Maxillae ca. twice as long as labium and somewhat convex at distal end. Labium markedly longer than wide. Both with a scattering of dark bristles. *Sternum*. Yellowish orange heavily suffused with grey. Shield-shaped, not produced between hind coxae. *Legs*. Orange-yellow with all femora and tibiae IV suf-



Figures 16-17. *Amblyothele hamatula* sp. n. (holotype) **16** right male palp, ventral view **17** right male palp, retrolateral view. Scale: 0.5 mm.



Map 4. Locality of *A. hamatula*.

fused with grey. Moderately long, ratio of length/breadth of tibiae IV 14.8:1. Leg IV 1.36 × length of leg I. Ventral spines of leg I; metatarsus 2-2-(2), tibia 2-2-(2). Lateral tarsal claws with 4 teeth, central claw minute, bent at right angles. *Abdomen*. Dorsally, base colour orange-yellow heavily suffused with black except on short central folium. Ventrally pale whitish-yellow. *Spinnerets*. Both dorsally and ventrally black. PLS long, second segment ca 0.75 × length of basal segment. *Male palp* (Figs 16-17). Median apophysis placed distally on tegulum. Apical lobe of median apophysis broad at base, tapering abruptly to a narrow tip. Posterior lobe with a small, forward pointing, barbed projection. Embolus invisible in unexpanded palp, long and thin, lying parallel to the projection and the same length as it.

Female unknown.

Distribution. Only recorded from the type locality in Côte d'Ivoire (Map 4).

***Amblyothele kivumba* sp. n.**

urn:lsid:zoobank.org:act:A3F0299B-E9D7-4CB9-8CF7-B05A849982CD

Figs 18-19, Map 5

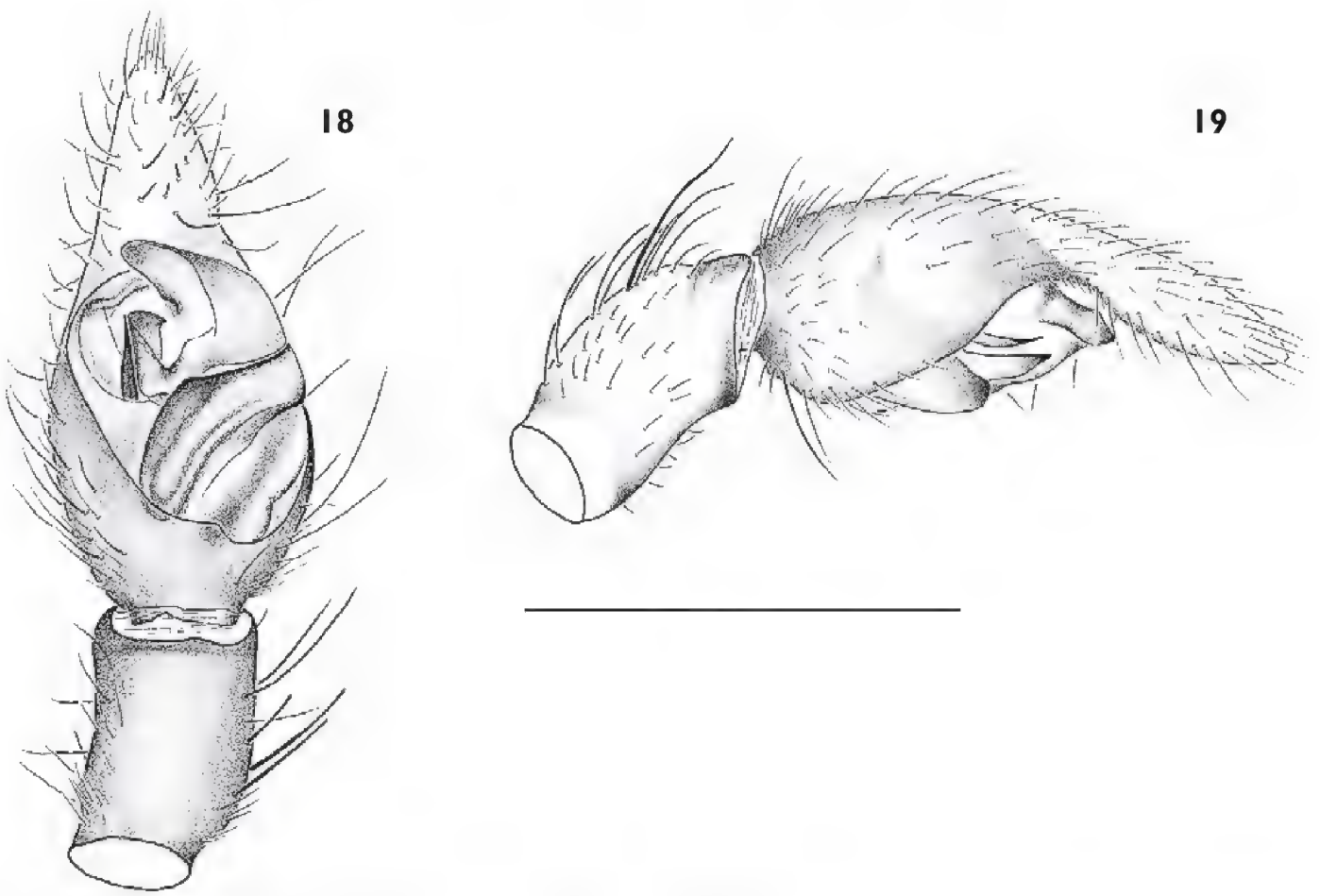
Diagnosis. The broad, deeply cupped apical lobe of the median apophysis of the male palp is distinctive as is the very long embolar tip which is clearly visible in ventral view.

Etymology. Named after the type locality.

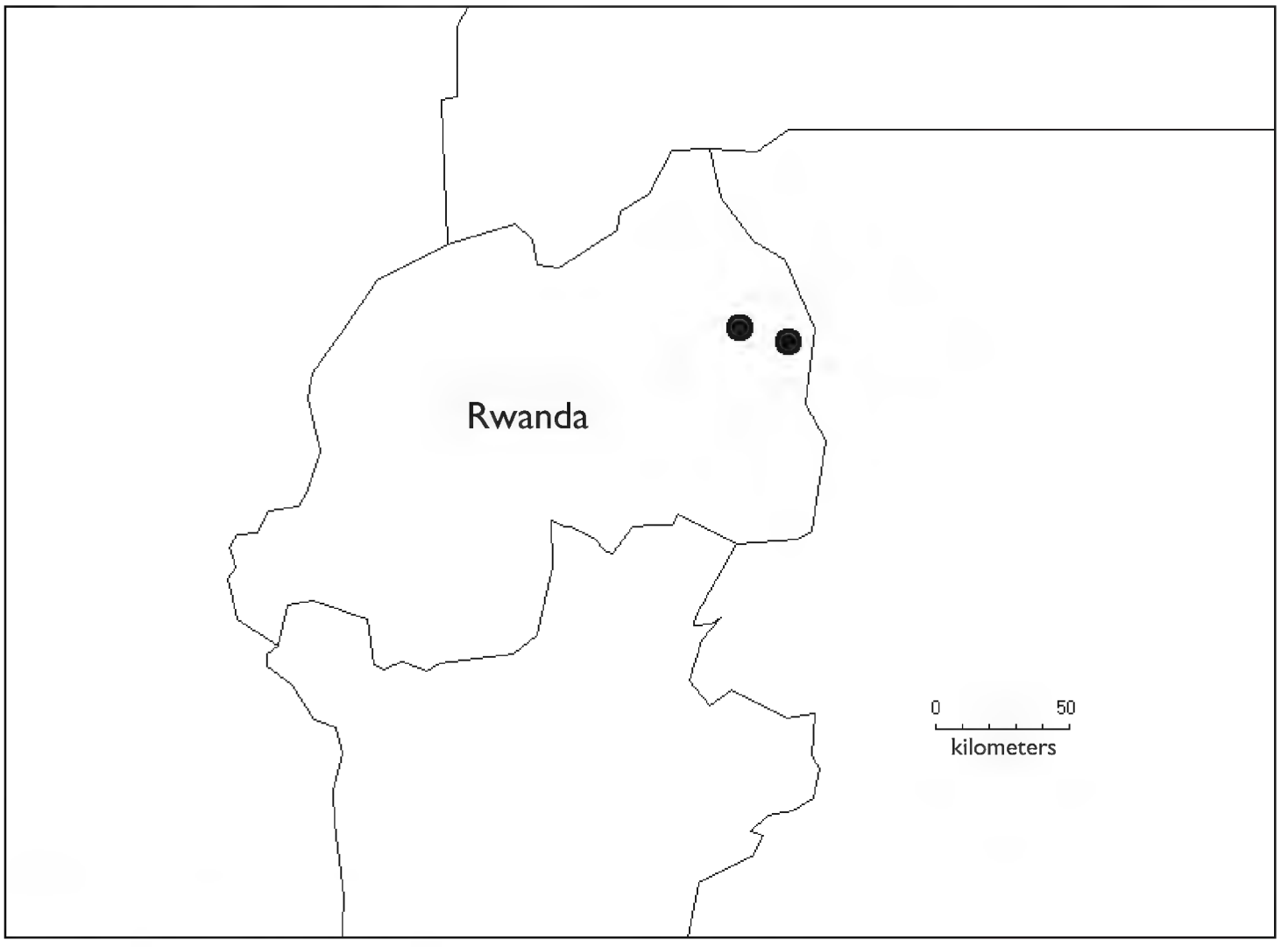
Type material. Holotype. Male. RWANDA: Akagera N.P., lac Kivumba, 1.5 km from principal road, 01°43'S 030°45'E, 15.XI-4.XII.1985, pitfalls in wooded savannah, Jocqué, Nsengimana, Michiels leg. (MRAC 165654).

Paratype. 1 ♂: RWANDA: Akagera N.P., 10 km N of fisheries, 01° 40'S 030°35'E, 17.XI-4.XII.1985, pitfalls in savannah, Jocqué, Nsengimana, Michiels leg. (MRAC 165773).

Description. Total length: 3.08 mm. *Carapace*. Length 1.56 mm, width 1.10 mm. Dark greyish brown. Head region lower than thoracic region. Fovea long, with dark streaks radiating from it to the margin. Head region with a coating of adpressed iridescent white setae and many forward-pointing strong black bristles. *Eyes*. Anterior row markedly recurved. AME 2 × diameter of ALE, all eyes touching one another. Middle eyes 1.75 × diameter of AME and separated by 0.43 × their own diameter. PLE 0.86 × diameter of PME and separated by 2.83 × their own diameter. *Chelicerae*. Yellowish brown mottled with dark grey. Relatively short and stout for the genus and clothed in dark bristles. Posterior margin with two teeth, that nearest the fang the largest, anterior margin with three teeth, the middle the largest. *Maxillae and Labium*. Maxillae 2 × length of labium, truncate distally, coloured as the chelicerae. Labium wider than long, sub-quadrate, coloured as chelicerae. *Sternum*. Shield-shaped and strongly produced between the hind coxae. Coloured as chelicerae. *Legs*. Coloured as the carapace, without any darker banding. Long, ratio of length/breadth of tibia IV 10.5:1. Leg IV 1.35 × length of leg I. Ventral spines of leg I long and thin; metatarsus 2-2-(2), tibia 2-2-(2). Tarsal claws with 3 long fine teeth, central claw on pad and bent at right angles. *Abdomen*. Dorsally, dark grey with a feint paler central folium on the anterior



Figures 18-19. *Amblyothele kivumba* sp. n. (holotype) **18** right male palp, ventral view **19** right male palp, retrolateral view. Scale: 0.5 mm.



Map 5. Localities of *A. kivumba*.

third. Clothed in dark bristles. Ventrally, pale yellowish. *Spinnerets*. Coloured as the abdomen. Long and thin with distal segment of PLS as long as basal segment. *Palp* (Figs 18-19). Median apophysis short, deeply cupped, with relatively narrow apical lobe, and with projection pointing forward. Embolus long and thin, as long as apophysis of basal lobe of MA and lying alongside it.

Female uknown.

Distribution. Known only from the type locality in Rwanda (Map 5).

***Amblyothele latedissipata* sp. n.**

urn:lsid:zoobank.org:act:BADCC224-DC23-4619-840A-C2634A0B2745

Figs 20-27, 41, Map 6

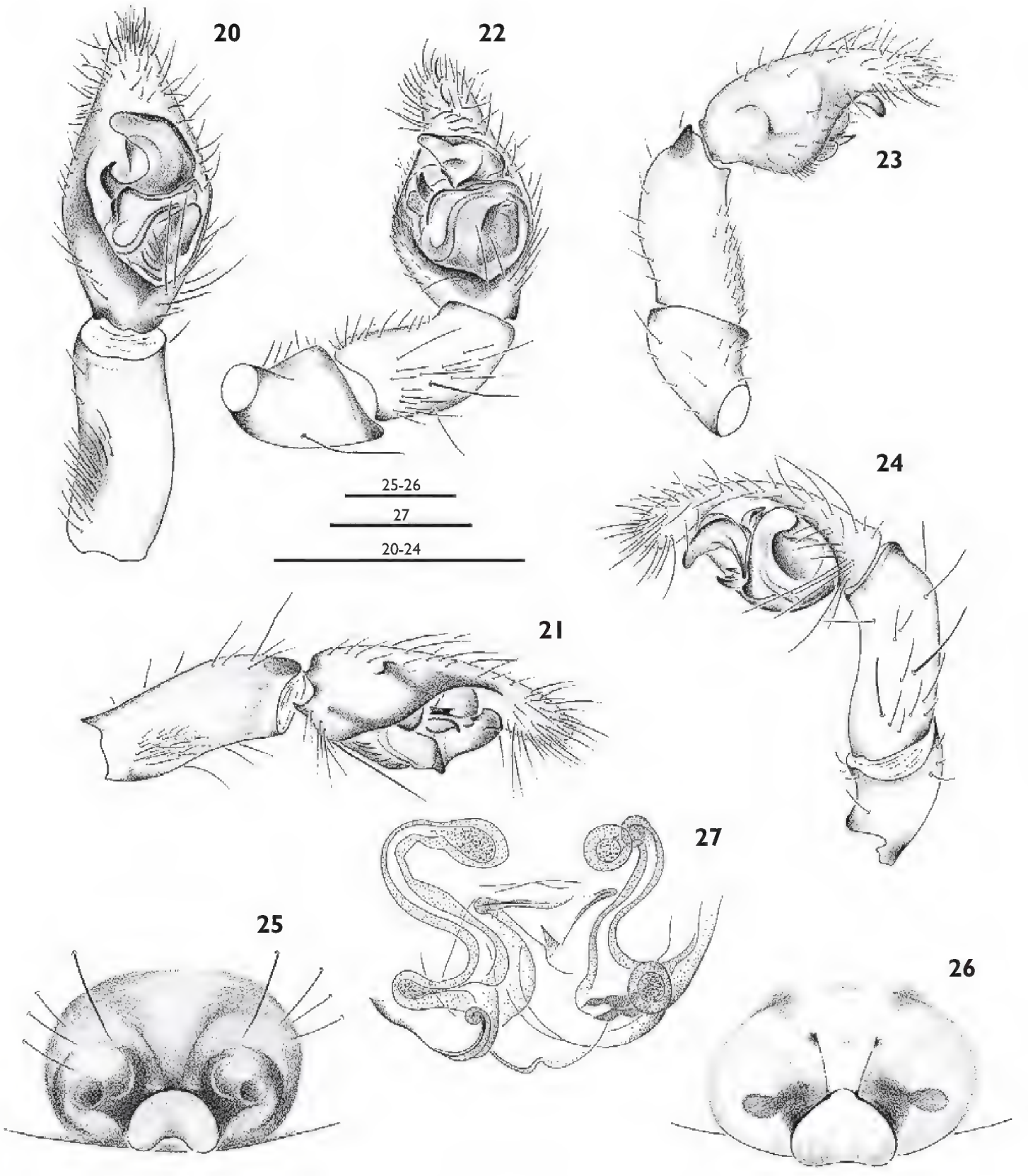
Diagnosis. The male may be recognised by the shape of the median apophysis, the proximal end of which tapers to a point and lacks any forward pointing lobe. The female differs from other members of the genus in possessing a broadly cordate central plate in the epigyne and by the shape and position of the spermathecae as seen through the cuticle.

Etymology. The specific name is derived from the Latin for "widely distributed" and refers to the wide separation of the three known localities for the species.

Type material. Holotype. Male. TANZANIA: Mkomazi Game Reserve, 4°00'S, 38°00'E, 26.XI.1994, pitfall traps in open *Acacia/Commiphor*a bushland, A. Russell-Smith leg. (MRAC 225507).

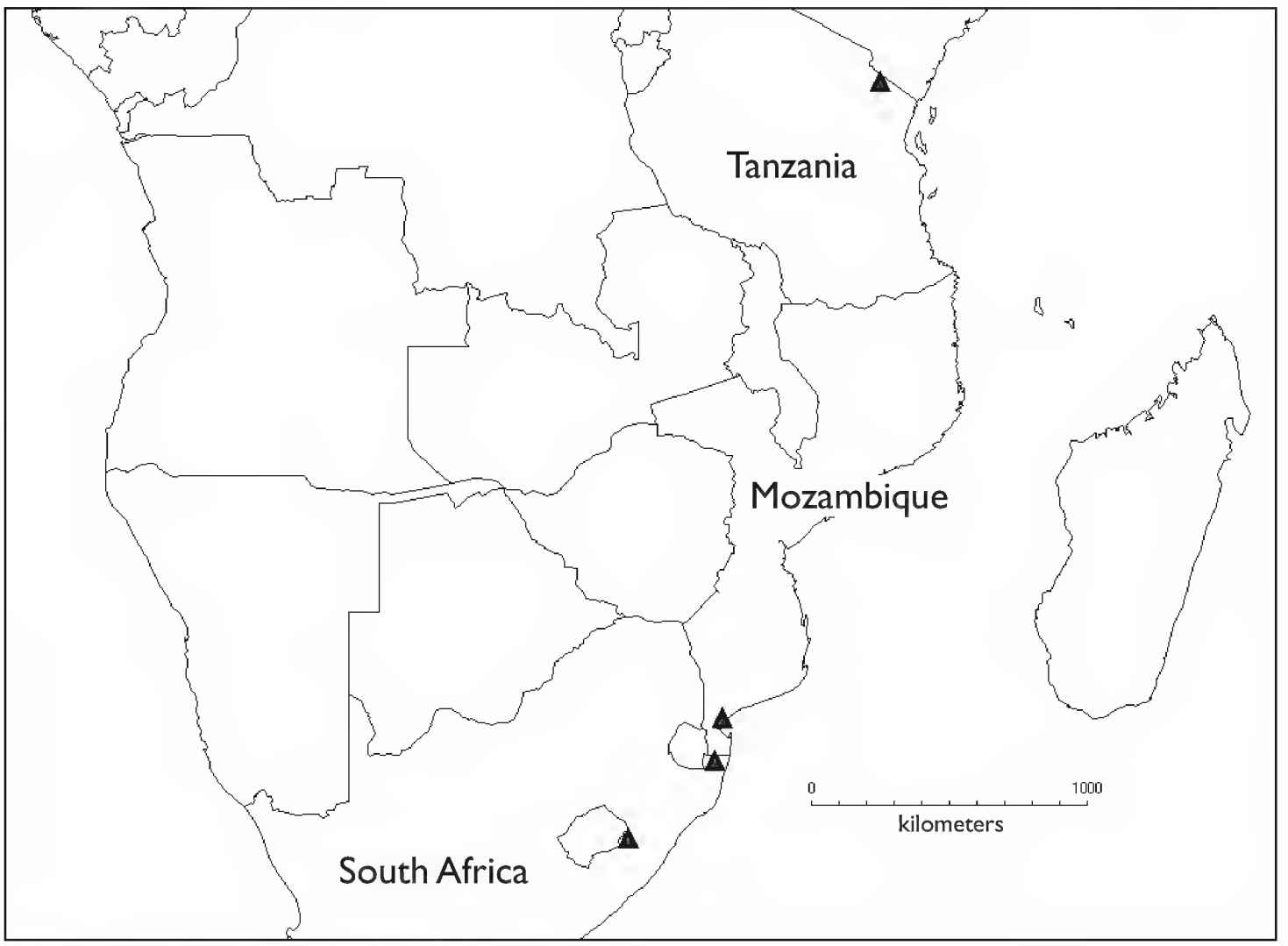
Paratypes. TANZANIA: 8 ♂ 3 ♀: together with Holotype (MRAC 225508); MOZAMBIQUE: 2 ♀: near Marracuene, Blue Anchor Inn, 50 m a.s.l. 25°35.124'S 32°39.568'E, 28.XI.2007, sifting leaf litter, savannah, C. Haddad and R. Fourie leg. (NCA); SOUTH AFRICA: 2 ♀: Tembe Elephant Park, Muzi Swamps, 27°01'S 32°24'E, pitfall traps, 22.I.2002, C. Haddad leg. (NCA).

Other material examined. TANZANIA: 7 ♂ 8 ♀: Mkomazi game Reserve, near Ibaya camp, 4°00'S, 38°00'E, IV.1995, A. Russell-Smith leg.; 4 ♂ 2 ♀: same site, IV. 1995; 2 ♂: same site, IV.1995; 2 ♂: same site, VI.1995; 2 ♂ 2 ♀: same site, XI.1995; 3 ♂ 1 ♀: same site, XII.1995; 2 ♂ 1 ♀: same site, III.1996; 10 ♂ 4 ♀: Mkomazi Game Reserve, Ibaya camp, IV.1995, from pitfall traps, in mixed grassland on footslope, A. Russell-Smith leg.; 13 ♂ 7 ♀: same site, V.1995; 1 ♂: same site, VI.1995; 6 ♂ 2 ♀: same site, VI.1995; 2 ♂ 1 ♀: same site, XI.1995; 1 ♀: same site, III.1996; 3 ♀: Kyela, 09°35'S 033°48'E, 18.XI.1991, cashew nut litter, sieved, R. Jocqué leg. (MRAC 173507). SOUTH AFRICA: 1 ♂: Kwazulu-Natal Province. Sani Pass, 29°39'S 029°27'E, 1200 m, 20.I.2008, pitfall trap, D. Prentice leg. (NCA); 2 ♂: same data as previous (NCA); 1♀: 15 km N of Richard's Bay, 10.XII.1966, rehabilitated coastal forest, T. Wassenaar leg. (NCA 97/946); 1♀: Kwazulu-Natal, Ndumo Game Reserve, Eastern shore of Shokwe Pan, 26°52.516'S 32°12.407'E, wandering around in leaf litter, C. Haddad leg. (MRAC 226176); 1♂: Kwazulu-Natal, Ndumo Game Reserve, 26°52.464'S 32°16.050'E, subtropical bush, *Acacia nigrescens* woodland, C. Haddad leg. (MRAC 226177).



Figures 20-27. *Amblyothele latedissipata* sp. n. **20-21**, **25** specimen from Ndumo, South Africa **22-24**, **26-27** from Tanzania **20**, **22** left male palp, ventral view **21**, **23** left male palp, prolateral view **24** male palp, retrolateral view **25**, **26** epigyne, ventral view **27** epigyne, dorsal view, cleared. Scales: **20-24** 0.5mm **25-27** 0.1 mm.

Description. Male. Total length, 3.75 mm. *Carapace.* Length 1.64 mm, width 1.24 mm. Colour pale yellow-brown with a feint paler longitudinal median band extending from behind the head region to hind margin. With some darker striae radiating from the fovea. Fovea relatively long (ca. 20% of carapace length). Head region not noticeably elevated. *Eyes.* Anterior row straight or very slightly procurved. AME 2.7 × diameter of



Map 6. Localities of *A. latedissipata*.

very small ALE and touching them. Middle eyes 2.25 × diameter of AME and about 0.33 × their own diameter apart. PLE 0.66 × diameter of PME and widely spaced, by ca. 2.0 × their own diameter. Immediate region of eyes densely black pigmented. *Chelicerae*. Long and narrow with a small fang. Coloured as carapace. Posterior margin with two very small teeth, anterior margin toothless. *Maxillae and labium*. Maxillae ca. 2 × length of labium, slightly broadened and strongly truncate distally. Colour very pale yellow. Labium slightly longer than broad, sub-quadrate, coloured as the maxillae and with a scattering of dark setae. *Sternum*. Shield shaped, slightly longer than broad, coloured as maxillae and with a scattering of dark setae. *Legs*. Typical of genus, long and thin, especially in male. Leg IV 1.27 × length of leg I. All segments pale yellow without any darker pigmentation. Ventral spines of leg I; metatarsus 2-2-(2), tibia 2-2-(2). Spines long, thin and pale. With three tarsal claws, the outer pair with five long thin teeth, the central claw small, on a raised pad and having two long serrated bristles adjacent. *Abdomen*. Dark grey-brown with a pale orange folium dorsally and, posterior to this, a pattern of chevrons with adjacent pale spots. The dorsal part densely clothed in dark setae. Ventrally pale whitish-yellow. *Spinnerets*. The PLS long, almost 2 × length of AMS. Basal segment of PLS ca. 2 × length of terminal segment. Coloured as abdomen. *Palp*. Figs 20-24. Median apophysis situated distally, anterior lobe sickle-shaped, posterior lobe without a forward pointing projection on the proximal end, which tapers to a point. Embolus also situated distally, relatively narrow, the tip obscured by a narrow functional conductor.

Female. Total length 4.58 mm. *Carapace*. Length 1.75 mm, width 1.24 mm. Colour as in male but somewhat darker. Pattern more diffuse than in male. Head region not at all elevated. *Eyes*. Anterior row slightly recurved, all eyes touching. AME 1.66 × diameter of ALE. Middle eyes 1.8 × diameter of AME, separated by 0.33 × their own diameter. PLE 0.55 × diameter of PME and widely separated by 2.73 × their own diameter. Immediate region of eyes suffused with black. *Chelicerae*. Similar to those of male in coloration and shape but slightly broader. Posterior margin with two small teeth, anterior margin with one very minute tooth. *Maxillae and labium*. Maxillae similar to those of male in colour and shape but rather broader in relation to length. Labium broader than in male but otherwise similar. *Sternum*. Identical in shape and colour to that of male. *Legs*. Similar of those of male but relatively shorter. Spination as in male but spines shorter, darker and more robust. Tarsal claws as in male but teeth longer and more robust. *Abdomen*. Dorsally, similar in colour to that of male but pattern much more indistinct. Ventrally, pale whitish yellow. *Spinnerets*. Long, proportions and coloration as in male. *Epigyne*. Figs 31, 32, 41. Central plate broadly cordate in shape with posterior margin slightly indented. Outline of spermathecae relatively small and positioned near the anterior end of central plate. Dorsal view Fig. 32.

Variation. Total length, males 3.50-4.17 mm (10 specimens), females 3.83-5.00 mm (9 specimens). There is some variation in the depth of pigmentation between individuals and in the distinctness of the dorsal pattern of the abdomen, with females generally having a less well defined pattern. The appearance of the female epigyne varies somewhat with the internal structures more visible through the cuticle in some specimens than others.

Distribution. Known from Mkomazi Game Reserve, Tanzania, Marracuene, Mozambique and Tembe Elephant Park, South Africa (Map 6).

Biology. Over one hundred specimens of this species were taken in pitfall traps in Mkomazi Game Reserve between April 1995 and March 1996. Traps were operated for four days in each month in both *Acacia/Commiphora* bushland on a hillside and tall grassland on a footslope below. *Amblyothele latedissipata* was found in both habitats but was most abundant in bushland that had not been recently burnt. It also occurred commonly in a grassland area that had been burnt a few months previously but was almost absent from recently burnt bushland. It showed a peak of activity in all habitats in the wet months of April and May with a second minor peak in October.

***Amblyothele longipes* sp. n.**

urn:lsid:zoobank.org:act:FA5EC3BE-4C5E-409F-AF19-5414EC67D872

Figs 28-32, 40, Map 7

Diagnosis. The male may be recognised by the shape of the small median apophysis, with the anterior lobe sickle shaped and the posterior lobe truncate and pointing forward. The female differs from other members of the genus by the rounded posterior lobes of the posterior margin of the epigyne and the fairly long, slightly curved entrance ducts.

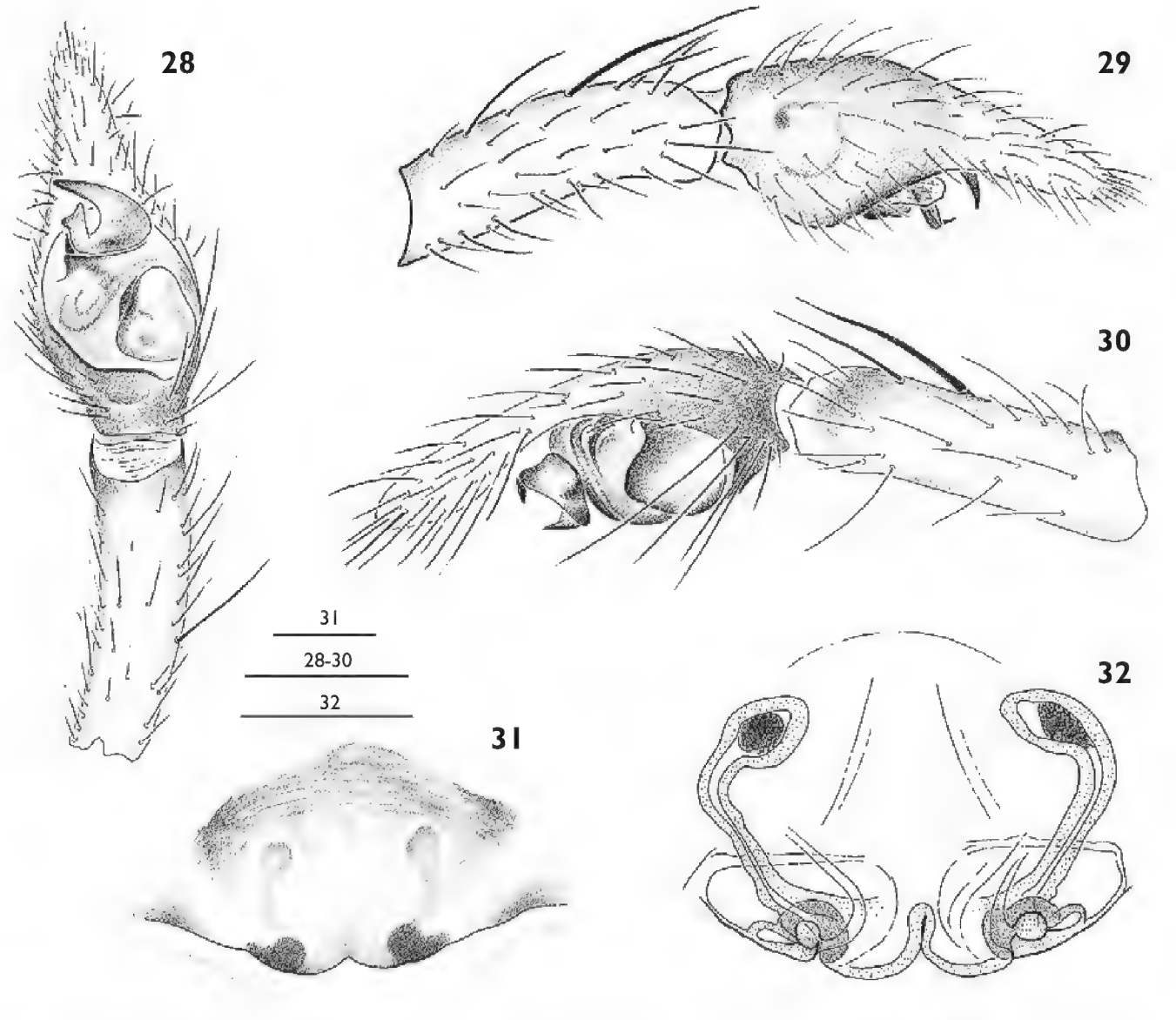
Etymology. The specific name refers to the exceptionally long, thin legs in this species.

Type material. Holotype. Male. COTE D'IVOIRE: Mbé, near Bouaké, WARDA site, 7°52'N 005°06'W, 12.IX.1994, quadrat in upland rice, A. Russell-Smith leg. (MRAC 223299).

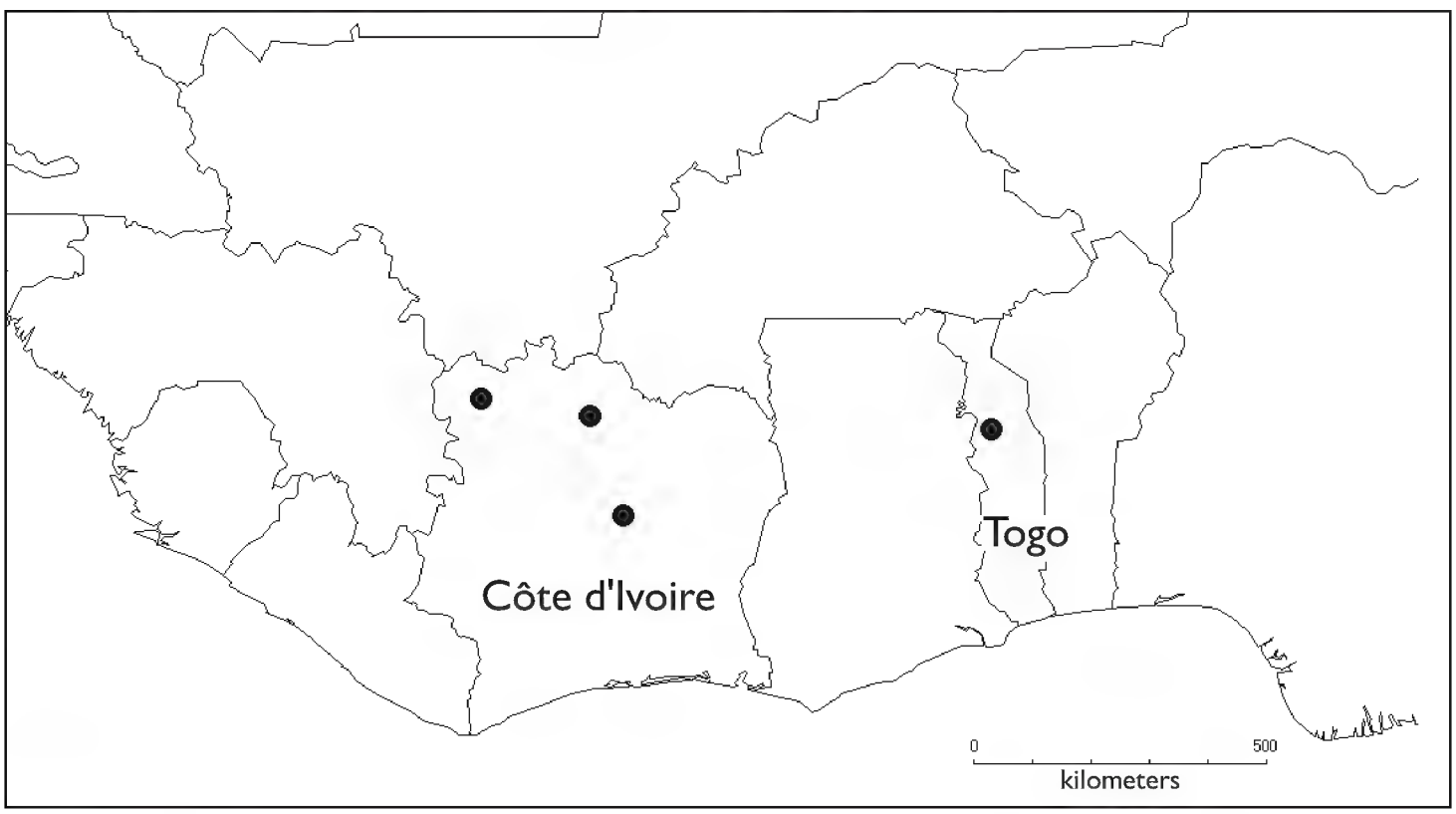
Paratypes. COTE D'IVOIRE: 3 ♂: Mbé, near Bouaké, WARDA site, 2.IX.1994, quadrat in upland rice, A. Russell-Smith leg.; 9 ♂ 3 ♀: Bouaké, Mbé, WARDA site, 07°52N' 005°06'W, 12.IX.1994, trash management experiment, A. Russell-Smith leg. (MRAC 225505).

Other material examined. COTE D'IVOIRE: 2 ♀: Mbé, near Bouaké, WARDA site, 7°52'N 5°06'W, 1.X.1993, in tall *Andropogon* fallow; 1 ♂ 2 ♀: same site, 27.VII.1994. A. Russell-Smith leg.; 1 ♂: Mbé, near Bouaké, WARDA site, 7°52'N 5°06'W, 15.VIII.1994, pitfall traps in upland rice, A. Russell-Smith leg.; 3 ♂ 2 ♀: same site, 16.IX.1994; 1 ♂: same site, 14.XI.1994; 9 ♂: same site, 7.X.1994; 1 ♀: same site, 23.VII.1995; 3♂ 1 ♀: same site, 17.VIII.1995; 4 ♂: same site, 7.IX.1995; 13 ♂ 1 ♀: same site, 26.IX.1995; 15 ♂ 2 ♀: same site, 14.X.1995; 1 ♂: same site, 26.XI.1995, A. Russell-Smith leg.; 1 ♂: Ganhoué, near Touba, 9°43'N 7°24'W, 27.VIII.1993, pitfall trap in upland rice field, A. Russell-Smith leg.; 3 ♂: Touba, VIII-X.1994, quadrats in upland rice, A. Russell-Smith leg.; 2 ♂ 2♀: Touba, 18.VI.1995, upland rice field, A. Russell-Smith leg. (MRAC 223300); 1 ♂: N of Korhogo, Bandama River, 09°27'N 005°38'W, IV.1980, edge riverine forest, J. Everts leg. (MRAC 171852). TOGO: 1 ♂ 2 ♀: Bassari, 9°15'N 0°47'E, in pitfall trap, P. Douben leg. (MRAC 174086).

Description. Male. Total length. 3.50 mm. *Carapace*. Length 1.40 mm, width 0.94 mm. Pale yellow-brown with grey-black wedges radiating from fovea. Fovea long. Thoracic region slightly elevated relative to head region and posterior margin steeply sloping. *Eyes*. Anterior row slightly recurved. AME 2 × diameter of very small ALE and almost touching them. AME separated by 0.2 × their own diameter. Middle eyes 1.4 × diameter of AME and separated by 0.33 × their own diameter. PLE 0.86 × diameter of PME and separated by 2.17 × their own diameter. Eye region heavily suffused with black. *Chelicerae*. Long and relatively thin, yellow brown suffused with grey and with two darker longitudinal stripes. Posterior margin with three small teeth, the middle the largest; anterior margin with 3 small teeth, placed further from base of fang than those of posterior margin. *Maxillae and labium*. Maxillae 2 × length of labium, distally truncate. Pale yellow suffused with grey. Labium sub-quadrate, as long as broad, coloured as maxillae. *Sternum*. Shield shaped, broader than long, produced between hind coxae. Coloured as maxillae but paler. *Legs*. Exceptionally long and slender. Ratio of length/breadth of tibia IV 22:1. Leg IV 1.36 × length of leg I. Yellow with tibiae and metatarsi suffused with grey. Paired tarsal claws with 5 long curved teeth, central claw small, bent at right angles. With paired serrated bristles opposite claws. *Abdomen*. With a pale yellow folium anteriorly and three dark chevrons posterior to the folium. Yellow-grey with darker markings. Ventrally pale whitish yellow. *Spinnerets*. Long and thin, typical of genus. PLS ca 2 × length of AMS, their second segments equal in length to basal segments. Coloured as abdomen. *Palp*. Figs 28-30. Cymbium pale yellow-brown.



Figures 28-32. *Amblyothele longipes* sp. n. (male holotype; female paratype) **28** right male palp, ventral view **29** right male palp, retrolateral view **30** right male palp, prolateral view **31** epigyne, ventral view **32** epigyne, dorsal view, cleared. Scales: **28-30** 0.5 mm **31-32** 0.1 mm.



Map 7. Localities of *A. longipes*.

Median apophysis relatively small, situated distally, with an apical sickle-shaped arm and a truncate basal lobe oriented anteriad. The two arms of the apophysis appearing to almost touch when viewed ventrally. Tip of embolus almost entirely concealed by the relatively broad functional conductor.

Female. Total length 3.75 mm. *Carapace*. Length 1.54 mm, width 1.04 mm. Colour as in male but somewhat darker. Fovea long. Head region not at all raised. *Eyes*. Anterior row slightly recurved. AME 2 × diameter of ALE and almost touching them. AME separated by 0.5 × their own width, Middle eyes 1.25 × diameter of AME and separated by 0.60 × their own diameter. PLE 0.84 × diameter of PME and separated by 1.44 × their own diameter. Eye region suffused with black and with a covering of white decumbent setae. *Chelicerae*. Similar to those of male but broader and shorter and with a stouter fang. Coloured as in the male but with many stout black bristles. Teeth as in male but shorter and stouter. *Maxillae and labium*. Broader than in male and with more dark pigmentation. Labium as in male but with darker pigmentation. *Sternum*. As in male but more darkly pigmented. Produced into a lobe between the hind coxae. *Legs*. Long and thin but much less so than in male. Ratio of length to breadth of tibia IV 17:1. Coloration darker than in male but otherwise similar. Paired tarsal claws as in male but larger and stouter. *Abdomen*. Coloration and dorsal pattern as in male but darker. Beset with dark bristles and white (plumose ?) setae. Underside as in male. *Spinnerets*. As in male but larger and more darkly pigmented. *Epigyne*. Figs 31-32, 40. In ventral view, posterior margin of epigyne rounded and deeply notched. Spermathecae small, situated near anterior margin. Slightly curved ducts just discernible through cuticle directed forward from spermathecae. Dorsal view, Fig. 40.

Variation. Total length, males 3.33-3.75 mm (6 specimens), females 3.33-3.92 mm (5 specimens). There is some variation in depth of pigmentation between individuals and in the distinctness of the dorsal pattern of the abdomen varies. The appearance of the female epigyne varies somewhat with the internal structures more visible through the cuticle in some specimens than others.

Distribution. This species has been recorded in Côte d'Ivoire and Togo (Map 7).

Biology. This species has been taken in both tall savannah with *Andropogon gayanus* and in upland rice fields in Côte d'Ivoire. It occurred in the derived savannah zone at Bouaké and Touba but was apparently absent from the forest zone at Gagnoa. In upland rice at Bouaké it appear to have a peak of activity in the second half of September and first half of October, approximately coincident with the flowering and seed setting phase of rice growth.

Amblyothele togona Roewer, 1960

Figs 1-9, 33-39, Map 8

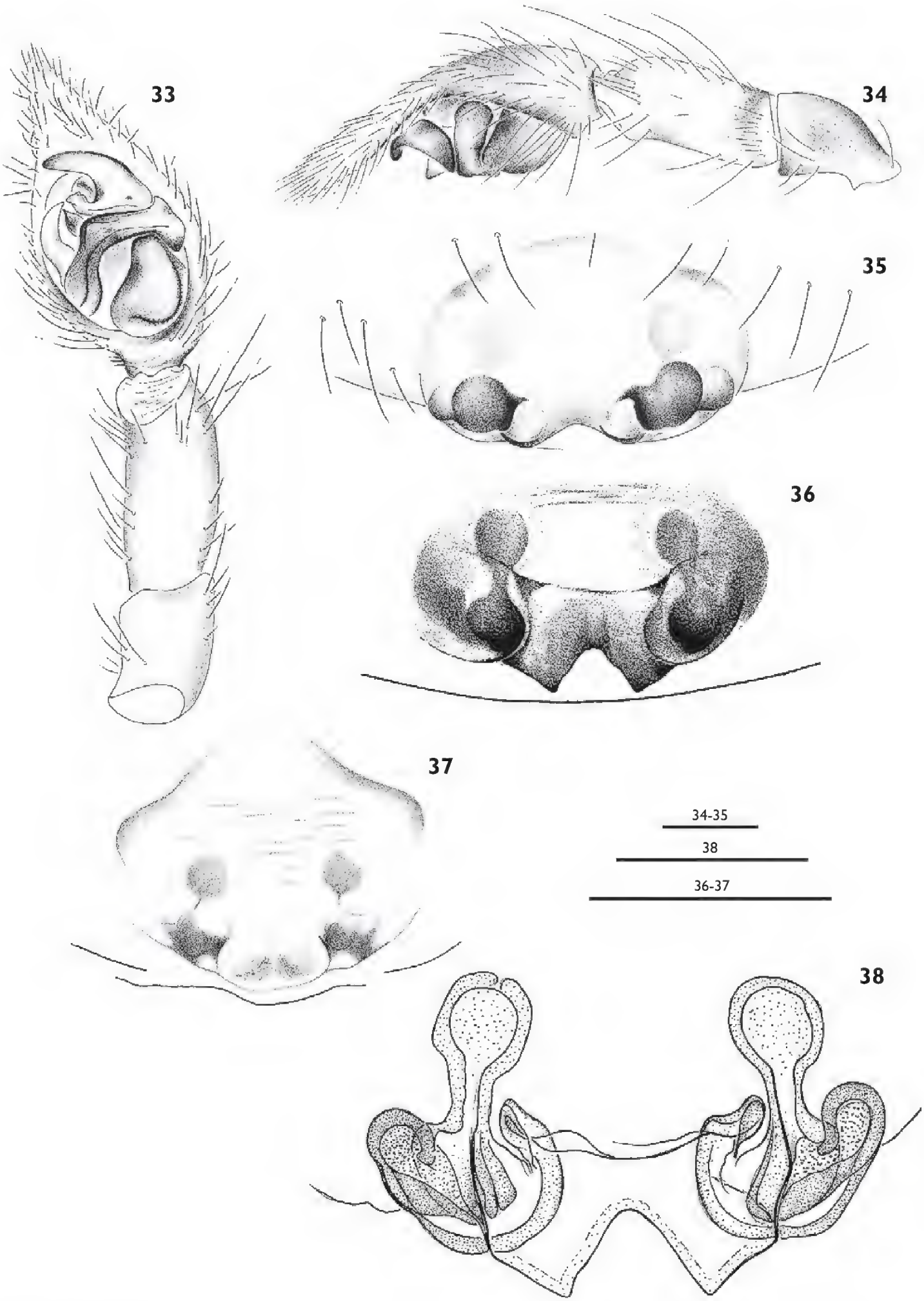
Diagnosis. The median apophysis of the male palp most resembles that of *A. longipes* but the apical lobe is considerably broader in relation to its length and the basal lobe is shorter and not forked at its tip. The embolus is broader in relation to length than that

of *A. longipes* and is more apparent in ventral view. The female epigyne has a very deeply notched posterior margin that is distinctive. The stout banded legs are characteristic.

Type material. Holotype. Female: TOGO. Without further data (SMF).

Other material examined. CÔTE D'IVOIRE: 1 ♀ (with egg-sac): Ganhoué, near Touba, 8°11'N 7°51'W, 27.VIII.1993, pitfall trap in upland rice field, A. Russell-Smith leg.; 1♀: Bouaflé, 6°59'N 5°45'W, 28.I.1981, pitfalls, J. Everts leg. (MRAC 174006). CAMEROON: 5 ♂ 3 ♀: Ebolowa, 02°54'N 011°09'E, IV.1980, pitfall traps, A. Russell-Smith leg. (MRAC 223302); ♀: Chabal Mbabo, 7°25'N 12°47'E, 8.IV.1983, from litter in gallery forest, Bosmans and Van Stalle leg. (MRAC 162625). KENYA: 1 ♀: Kakamega Forest, 00°13'N 034° 54'E, 17-24.III.2002, Malaise trap, D. Shilabira Smith leg. (MRAC 212619); 1 ♀: Kakamega Forest, 00°13'N 034°54'E, 6.IV.2002, malaise trap, D. Shilabira Smith leg. (MRAC 220463). CONGO DR: 1 ♂ 3 ♀: Kisangani, Forêt de Masako, N 00°35' E 025°11', 20.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 211829); 1 ♂ 1 ♀: same locality, 27.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 211842); 2 ♀: same locality, 18.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 211854); 2 ♀: same locality, 20.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 211866); 1 ♀: same locality, 13.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 211926); 2 ♀: same locality, 12.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 211978); 1 ♂ 4 ♀: same locality, 13.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 212019); 1 ♀: same locality, 12.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 212033); 2 ♀: same locality, 5.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 212063); 1 ♀: same locality, 11.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 212070); 2 ♀: same locality, 11.VII.2001, young fallow, J.-L. Juakaly leg. (MRAC 212111); 1 ♀: same locality, 5.VII.2001, young fallow, pitfall, J.-L. Juakaly leg. (MRAC 212115); 2 ♂: same locality, 17.XII.2002, young fallow, pitfall, J.-L. Juakaly leg. (MRAC 214364); 1 ♂: same locality, 24.IX.2002, young fallow, pitfall, J.-L. Juakaly leg. (MRAC 214572).

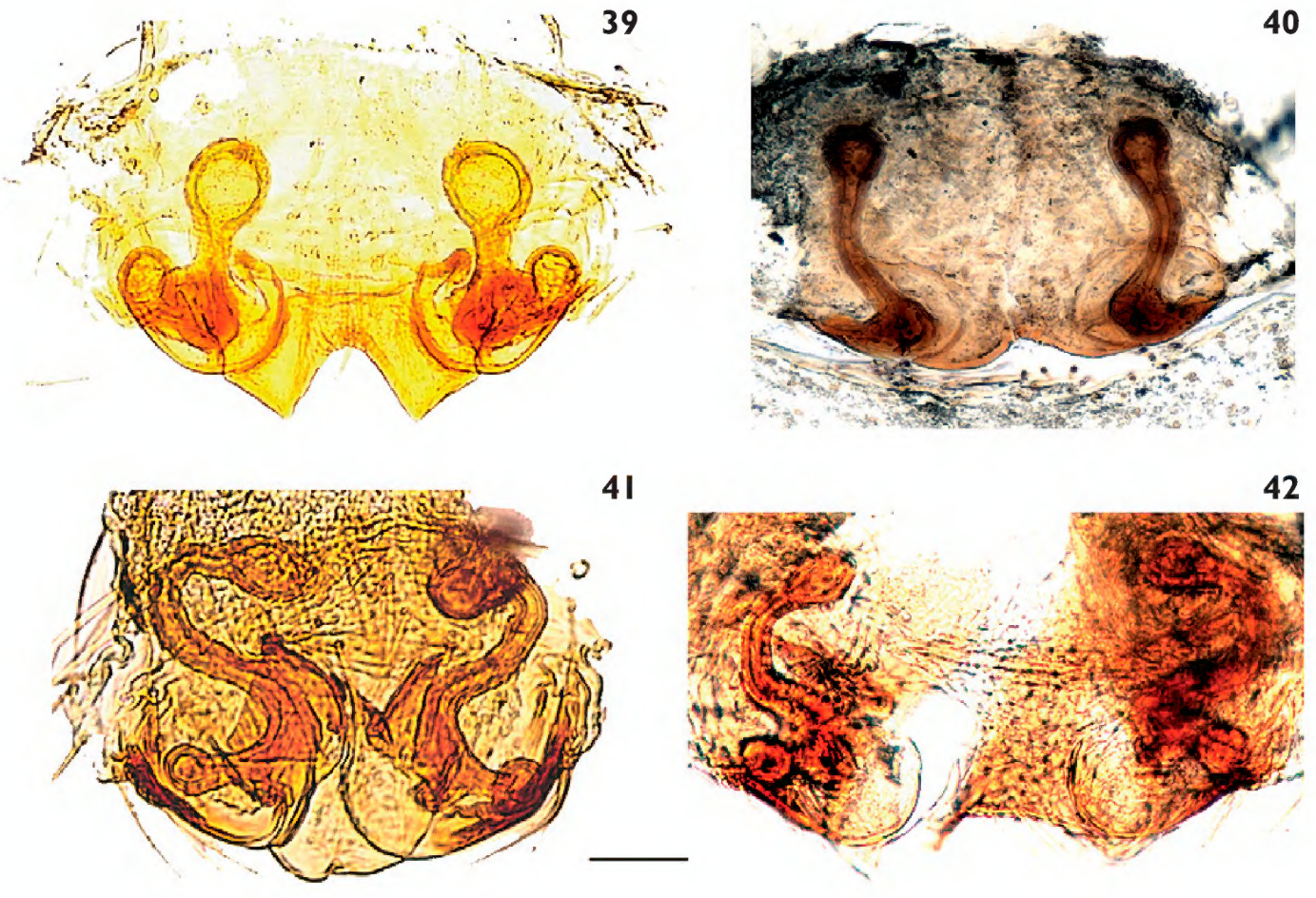
Description. Female (holotype): Total length, 3.33 mm. *Carapace.* Length 1.42 mm, width 1.20 mm. Orange brown suffused with greyish black except for central longitudinal band. Head region not noticeably raised. Fovea relatively short. Immediate surroundings of eyes suffused with black. *Eyes.* Anterior row very slightly recurved. AME 2 × diameter of ALE and touching them, separated by ca 0.2 × their own diameter. Middle eyes 1.75 × diameter of AME, separated by 0.43 × their own diameter. PLE 0.57 × diameter of PME separated by 3.75 × their own diameter. *Chelicerae.* Greyish orange. Relatively short and stout for genus, with a few dark bristles. Posterior margin with two teeth, that nearest fang the larger, anterior margin with three small teeth, the central largest. *Maxillae and labium.* Maxillae ca 2 × length of labium and with relatively rounded distal margins. Labium as long as wide, sub-quadrate. All pale yellow except for darker triangle at base of labium. *Sternum.* Pale yellow. Shield-shaped and produced between hind coxae. *Legs.* Only three legs surviving on specimen. Pale yellow with two dark grey rings on femora and tibiae. Relatively stout, ratio of length/breadth of tibia IV 9.1:1. Ventral spines of leg I; metatarsus 2-2-(2), tibia 2-2-(2). Spines long, thin and pale. With three tarsal claws, the outer pair with three long thin teeth, the central claw small, on a raised pad and bent at right angles. *Abdomen.* Dorsally very



Figures 33-38. *Amblyothele togona* Roewer (male from Ebolowa, Cameroon). **33** right male palp, ventral view **34** right male palp, prolateral view **35** epigyne (specimen from Ebolowa, Cameroon) **36** epigyne, specimen from Masako, DR Congo **37** epigyne, holotype **38** epigyne, dorsal view, cleared, specimen from Masako, DR Congo. Scales: **33-34** 0.5 mm **35-38** 0.1 mm.

dark greyish brown with a feint paler central folium. Ventrally pale whitish yellow. *Spinnerets*. Coloured as abdomen. PLS long, the distal segment 0.8 × length of basal segment. *Epigyne*. Figs 3, 35-39. Very similar in general appearance to that of *A. longipes*. Epigynal plate almost twice width of that of *A. longipes*. Outline of spermathecae through cuticle larger and sperm ducts shorter and broader. Notch on hind margin of epigynal plate broader than that of *A. longipes* and lobes pointed.

Male. Total length 3.50 mm. *Carapace*. Length 1.75 mm, width 1.17 mm. Head region not at all raised. Fovea long, 0.25 × length of carapace. With a broad pale yellow-brown dorsal stripe along carapace and with grey-black wedges radiating from fovea to carapace margin. A series of long dark bristles along the central stripe of the carapace. *Eyes*. Anterior row recurved. AME 1.67 × diameter of ALE and almost touching them. Middle eyes 1.80 × diameter of AME and separated by 0.33 × their own diameter. PLE 0.78 × diameter of PME and separated by 2.1 × their own diameter. Immediate eye region suffused with black. *Chelicerae*. Relatively long and narrow. Chestnut brown with a narrow darker stripe extending along half the length of the anterior face. Hind margin with two teeth, that nearest to fang the larger, posterior margin with one large tooth. *Maxillae and labium*. Maxillae ca 2 × length of labium and strongly truncate at distal end. Pale yellow-brown. Labium subquadrate, as long as broad, coloured as maxillae. *Sternum*. Shield shaped and somewhat produced between hind coxae. Pale yellow. *Legs*. Relatively long and thin, ratio of length/breadth of tibia IV 15:1. Leg IV 1.33 × length



Figures 39-42. Epigynes, cleared, dorsal view **39** *Amblyothele togona* sp. n. (Masako, Congo DR) **40** *Amblyothele longipes* sp. n. (Mbé, Ivory Coast) **41** *Amblyothele latedissipata* sp. n. (Mkomazi, Tanzania) **42** *Amblyothele albocincta* (Okavango). Scale = 0.1 mm.

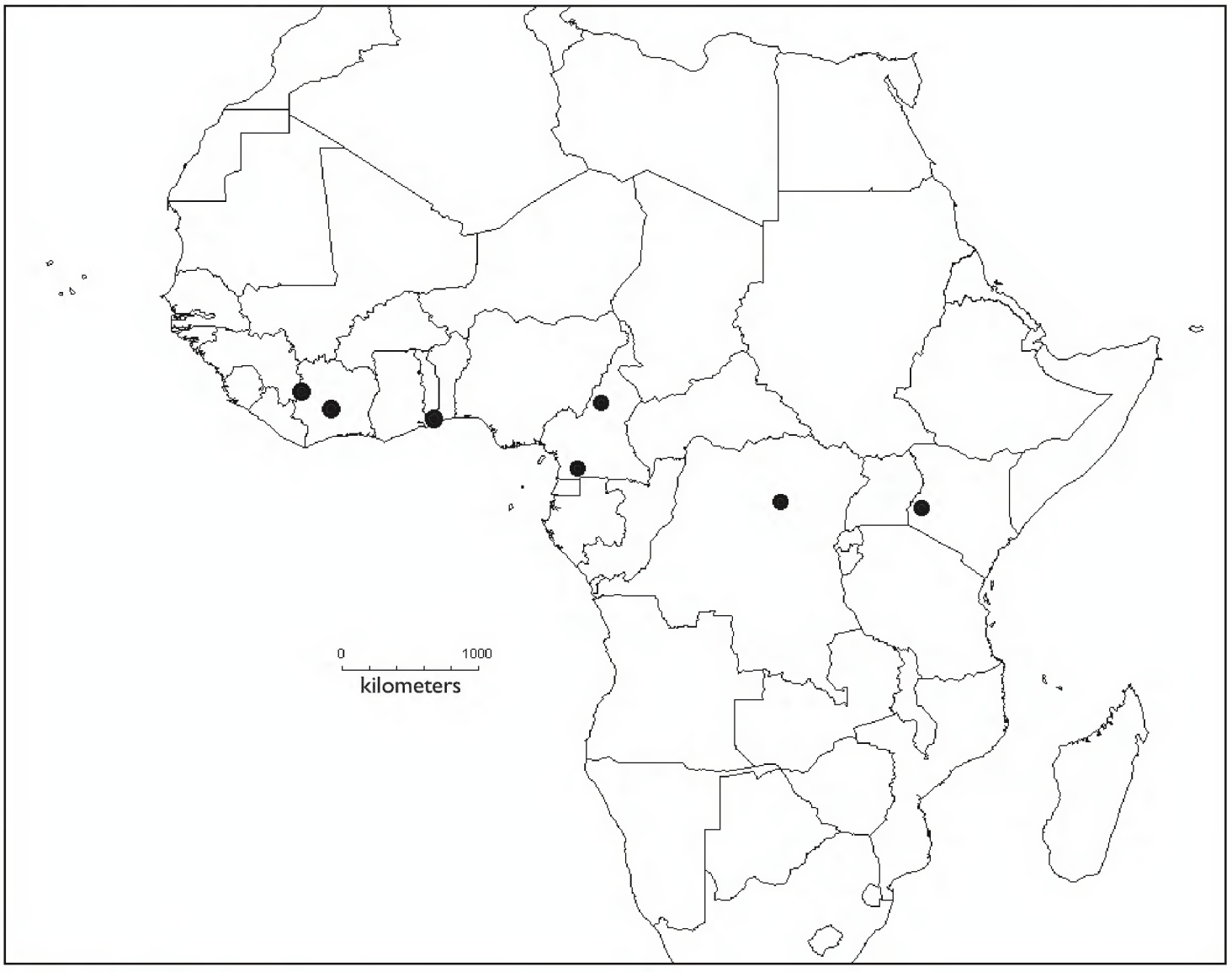
of leg I. Ventral spines of leg I; metatarsus 2-2-(2), tibia 2-2-(2). Spines relatively short for genus. All segments pale orange-yellow, clothed in short dark setae. Tarsal claws (fig. 9) with 2-3 fine teeth, typical of genus. Inferior claw with five small teeth. Tarsal organ with keyhole shaped opening (Fig. 8). *Abdomen*. With greyish-brown markings on a paler yellow background. With a dark dorsal folium anteriorly and behind this 3 faint chevrons. Ventrally pale whitish. *Spinnerets* (Figs 4-5). PLS ca 2 × length of AMS. Terminal segment of PLS 0.7 × length of basal segment. Coloured as the abdomen.

Male Palp. Figs 6, 7, 33, 34. Median apophysis rather similar to that in *A. longipes*. Apical lobe sickle-shaped but not tapering to a narrow tip as in *A. longipes*. Basal lobe with short forward pointing projection which is truncate at tip. Anterior and posterior lobes of MA do not approach close to one another. Embolus very broad, clearly visible alongside MA.

Variation. Total length, males 3.50-3.83 mm (5 specimens). There is some variation in depth of pigmentation between individuals and in the distinctness of the dorsal pattern of the abdomen varies. The shape of the epigyne may vary considerably depending on the inclination. In the holotype the V-shaped notch is not conspicuous because the posterior part of the epigyne is slightly invaginated.

Distribution. Known from Côte d'Ivoire, Cameroon, D.R. Congo and Kenya (Map 8).

Biology. Unlike other species of the genus, *A. togona* has been recorded in the litter of a riverine forest.



Map 8. Localities of *A. togona*.

Discussion

There is a superficial similarity between *Amblyothele* species and representatives of the genus *Trebacosa* Dondale & Redner, 1981 of which a species has recently been discovered in Europe (Szinetár and Kancsal 2007; Villepoux 2007) and which clearly belongs in the Piratinae. However there are clear differences between *Trebacosa* and *Amblyothele.* In the former, the cephalothorax is densely covered in short setae, the position of the eyes is clearly different, and the legs are much shorter. Among the differences in the structure of the genitalia, mainly the large and prominent MA and TA on the male palp and the very short copulatory ducts in the epigyne of *Trebacosa*, discern it from *Amblyothele*.

In Africa, lycosid spiders of the subfamily Piratinae [*sensu* Zyuzin (1993)] are represented by at least six genera. The nominate genus *Pirata* includes 10 described species from throughout the continent. The African representatives of the genus have never been fully revised and since seven of these are known only from females it is likely that a number of synonyms exist. As in Europe and N. America, nearly all African *Pirata* species are associated with wetland habitats. The monotypic genus *Auloniella* (holotype male of *A. maculisterna* Roewer, 1960 in ZMB seen) is very close to *Pirata* and may yet be considered to belong to that genus once revised. *Proevippa* is currently represented by 11 species, almost entirely confined to southern Africa and characteristic of savannah grasslands and open woodland. *Trabea*, which is closely related to *Proevippa* (Russell-Smith 1982) is also largely southern African although *T. bipunctata* and *T. heteroculata* extend northwards as far as Rwanda (Alderweireldt 1999) and Ethiopia. Most of the 11 species are recorded either from grasslands or fynbos. The recently described and enigmatic monotypic genus *Minicosa* from S. Africa is probably also best placed in the Piratinae, showing some similarities to *Trabea* (Alderweireldt and Jocqué 2007). The genera *Pterartoria* Purcell and *Pterartoriola* Roewer have never been fully revised and although both have a palpal structure that shares features with *Proevippa* and *Trabea*, their relationships remain obscure. The four species in each of these genera are confined to South Africa.

The genus *Amblyothele* can now be added to these. The genus is closest to *Pirata* in terms of genitalic morphology but differs significantly in its generally smaller size, longer legs and different leg chaetotaxy. It also differs from *Pirata* in its habitat preference, the former ocurring in wetlands while *Amblyothele* species are found in a range of different savanna grassland and open woodland habitats. Like *Pirata*, the geographical range of *Amblyothele* in Africa is wide, the species being found from Côte d'Ivoire in W. Africa to Rwanda in E. Africa and southwards to Botswana, Mozambique and South Africa.

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